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THESIS

NOT OUT OF CONTROL: ANALYSIS OF THE FEDERAL DISASTER SPENDING TREND

by

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March 2016

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**NOT OUT OF CONTROL: ANALYSIS OF THE FEDERAL DISASTER
SPENDING TREND**

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ABSTRACT

The purpose of this study of 20-year trends in federal disaster spending was to determine whether and to what extent spending has been on the rise, and to examine contributing factors. A grounded theory analysis was conducted on 1,156 major declared disasters from fiscal years 1995 through 2014. Numerical data graphically illustrate budgeting, spending, and declaration trends, and policy and inertia influences are described. This study found an upward trend of federal disaster spending, yet one that is far from out of control. Research shows that 66% of major disaster funding was provided by emergency supplemental bills versus regularly budgeted appropriations. Half of all spending was on infrastructure, and hurricanes were the number one disaster type for federal spending. More severe storms were declared than all other disaster types combined, and the number of major disasters declared demonstrated an upward trend. The trend of rising spending and quantity of declarations was consistent with existing literature. Federal spending for fire, human services, post-disaster mitigation, and mission assignments demonstrated a downward trend as a proportion of the Disaster Relief Fund. Recommendations are provided to transform national thinking toward development of a national risk management approach to incentivize policymakers, homeowners, and local- and state-level funding recipients to better manage risk and improve stewardship of federal tax dollars.

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LIST OF ACRONYMS AND ABBREVIATIONS

BCA	Budget Control Act
BLM	Bureau of Land Management
CRS	Congressional Research Service
DFSR	disaster financial status report
DHS	Department of Homeland Security
DISASTER	Disclosing Aid Spent to Ensure Relief
DRF	Disaster Relief Fund
EMAC	Emergency Management Assistance Compact
FEMA	Federal Emergency Management Agency
FY	fiscal year
GAO	Government Accountability Office
HHS	Department of Health and Human Services
HMGP	Hazard Mitigation Grant Program
NFIP	National Flood Insurance Program
NOAA	National Oceanic and Atmospheric Administration
OMB	Office of Management and Budget
PA	public assistance
TTR	total taxable resources
USACE	U.S. Army Corps of Engineers
Web-IFMIS	Web-based Integrated Financial Management Information System

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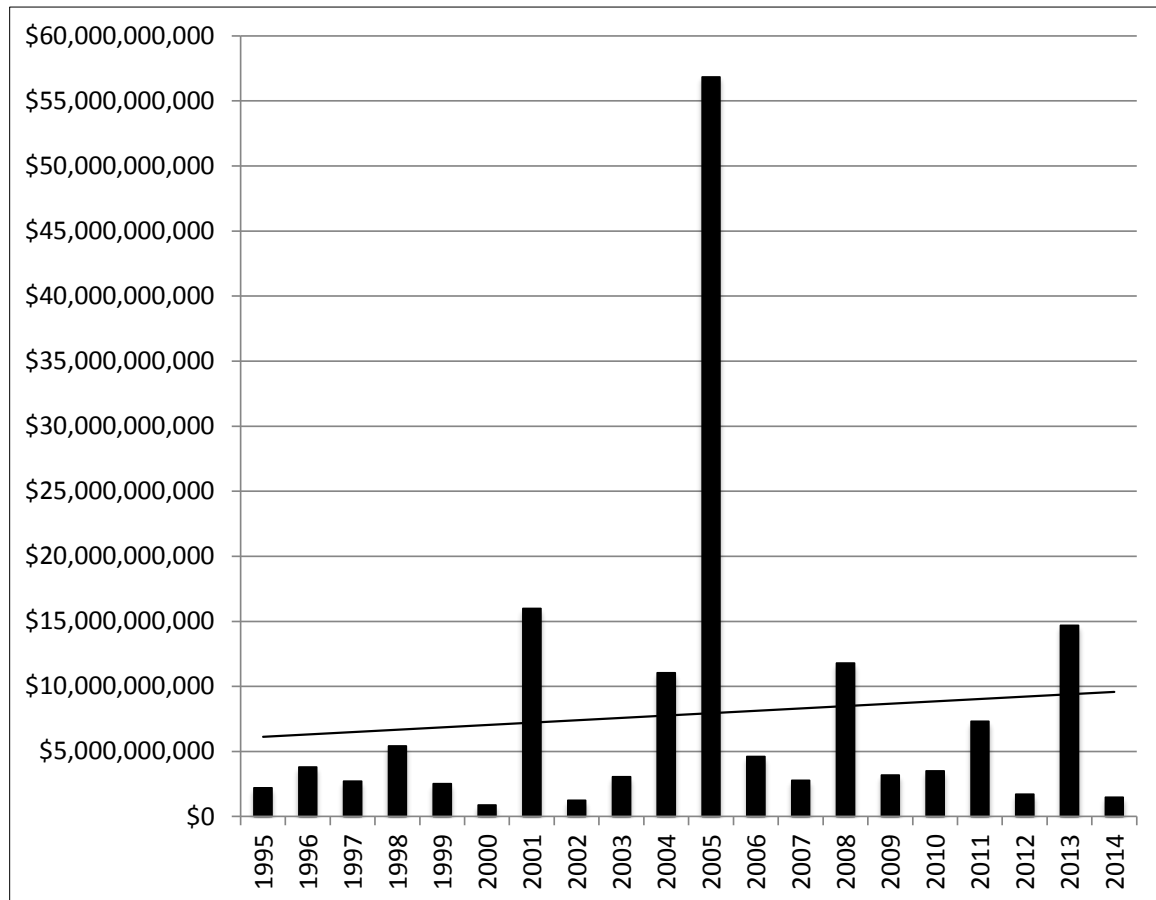
EXECUTIVE SUMMARY

The amount of money the federal government spends each year on disasters is not fully known. No federal agency has a requirement to track all federal disbursements for major disaster declarations among the numerous recipients of budgeted funds and emergency supplemental spending bills. Notwithstanding, federal policymakers and watchdog groups have issued warnings that disaster spending is out of control, and even reckless. The purpose of this study is to determine the federal disaster-spending picture, and factors that have contributed to resulting spending trends.

Using a mix of qualitative and quantitative analysis, this exploratory study examined a 20-year record of major disasters. The 1,156 declarations for fiscal years 1995–2014 were analyzed according to disaster type and year, and by the five major categories of assistance in the Disaster Relief Fund (DRF): infrastructure, human services, post-disaster mitigation, mission assignments, and Federal Emergency Management Agency (FEMA) administrative costs.

This study found that federal disaster spending trended up over the 20-year period. However, no pattern of annual increased spending was found, and in fact, variability was considerable; see Figure 1. This finding contradicts claims of out-of-control spending.

Figure 1. Disaster Relief Fund Major Disaster Spending, FY1995–2014
(adjusted to 2014 dollars)



Adapted from Federal Emergency Management Agency, *Disaster Financial Status Report—April 2015 Reporting Cycle* (Washington, DC: Federal Emergency Management Agency, 2015); Robert C. Sahr, *Consumer Price Index (CPI) Conversion Factors for Years 1774 to Estimated 2025 to Convert to Dollars of 2014* (Corvallis, OR: Oregon State University, 2015).

Hurricane Katrina caused the spending anomaly illustrated in 2005. This study shows that eliminating federal spending for Hurricane Katrina from the data analysis does not change the existence of a general upward trend of federal disaster spending. Federal spending in all five DRF categories demonstrated an upward trend. Surprisingly, four areas demonstrated a downward trend as a share of federal spending: fire, human services, post-disaster mitigation, and mission assignments. Infrastructure represented 50% of all federal major disaster spending.

This research revealed three types of disasters accounted for more than 89% of all federal major-disaster declaration spending in the 20-year period: hurricanes, severe storms, and fire. The disaster type using the most federal funds was hurricanes; yet, severe storms represented the vast majority of disaster declarations. In fact, more severe storms occurred than all other types of disasters combined. The rate at which major disaster declarations were declared also demonstrated an upward trend.

The study found that budgeting for disasters at the national level is poorly done. The research demonstrates that disaster events are to be expected and are not in fact a surprise; yet, the federal government continues to rely on the emergency legislative process as the primary means of disaster funding. Congress passed more than \$110 billion in emergency supplemental spending bills for disaster response and recovery. The government budgeted only 34% of all federal disaster funds spent. In other words, the actual cost to federal taxpayers is unrealistic. The question is whether persistent disaster underbudgeting creates a false impression of out-of-control disaster spending. The lack of adequate annual disaster funds necessitates emergency funding legislation, which may exacerbate the perception of rampant spending.

This study focused on seven of the numerous factors contributing to the trend of increasing federal disaster spending: expanding scope and federalism, the quantity of declared disasters, the per capita damage indicator, government funding of property insurance, unrealistic disaster budgeting, inadequate tracking of disaster spending, and disincentives to change.

Study recommendations to reduce federal disaster spending include the following: develop an annual report of all federal disaster spending regardless of funding mechanism to help policymakers and the public better understand where taxpayer money is spent for disasters; create a national risk management strategy to prioritize investments and maximize resource allocation; incentivize the private sector to offer insurance policies for high-risk areas, such as coastal communities, and eliminate federal government subsidy of the housing insurance market; raise the state-level per capita damage indicator to make it more reflective of all state or tribal government revenue and ability to respond to a disaster; and reduce the federal disaster relief cost share from 75% to 50% to lessen

federal expenditures while reinforcing state-level incentives for geographic risk management.

Finally, these recommendations are moot if change incentives do not exist for policymakers, homeowners, and state-level entities receiving federal disaster funds. The trend of rising federal disaster spending will continue if no incentives are provided that reward states and individuals for investing before a disaster occurs and requesting less in assistance from the federal government. If policymakers continue to benefit politically from large emergency supplemental spending bills for their constituents after a disaster, no incentive to change the trend of increasing federal disaster spending for the future will exist.

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I. INTRODUCTION

The widespread belief is that spending for disasters continues to increase at an exorbitant rate. Lou Barletta (R-PA), the House of Representatives chair of the Economic Development, Public Buildings, and Emergency Management Subcommittee, exclaimed “disaster spending is spiraling out of control.”¹ In 2015, former Federal Emergency Management Agency (FEMA) Administrator R. David Paulison testified that federal disaster relief spending would continue its upward spiral without building code reforms.² Alarming statistics are offered in the news, from government sources, and from think tanks and non-profit groups that the amount of taxpayer money used to provide relief as a result of disasters climbs ever higher.³ If true, it is imperative to understand what is going on, and to build efficiencies into disaster response. This thesis demonstrates that disaster spending by the federal government has been on the rise over a 20-year period, but is not growing at an alarming rate. It also shows how spending is spread among federal agencies, and that no annual accounting mechanism exists for determining the full extent of federal disaster spending. Many factors have contributed to this increase, including coastal population growth, the expanding role of the federal government in disasters, and disincentives for funding recipients, homeowners and business owners, and policymakers to change the approach to disaster spending. This thesis provides recommendations to prioritize risk management and refine federal policies to incentivize reducing annual federal spending on disasters.

¹ “Committee Leaders Introduce Bill to Reform Disaster Assistance Programs and Reduce Disaster Costs,” last modified March 19, 2005, 1, <http://transportation.house.gov/news/documentsingle.aspx?DocumentID=398753>.

² *Rebuilding After the Storm: Lessening Impacts and Speeding Recovery: Hearings before the House Subcommittee on Economic Development, Public Buildings, and Emergency Management*, 114th Cong., 1 (2015) (statement of Robert David Paulison, Former Administrator, Federal Emergency Management Agency), 6.

³ Melanie Gall et al., “Unsustainable Trend of Natural Hazard Losses in the United States,” *Sustainability* 3, no. 11 (November 14, 2011): 2164.

A. OVERVIEW

Reducing federal government spending (i.e., taxpayer dollars) for disasters is raised periodically as a problem of poor management, a national security threat, and potentially wasteful. Despite the lack of clarity on federal government disaster spending, the sustainability of disaster response and recovery spending levels is challenged.⁴ This spending is characterized as out of control, spiraling, and irresponsible. Budget constraints and the efficient and effective use of taxpayer dollars remain constant concerns. To understanding this spending, it is essential to examine how people know whether federal disaster spending is out of control, and if it is, what are the factors that have contributed to this upsurge.

Answering a seemingly simple question, “how much did that disaster cost?” requires in actuality a complex, multi-faceted answer, if it can even be answered completely. Disaster costs are borne by the private sector, non-governmental organizations, individuals, and government at all levels. The accounting for all money spent in response to a disaster, including from all these stakeholders, is not centrally tracked or managed.⁵ Challenges in identifying all direct losses in the private sector, as well as all government funding programs applied in a disaster, are well documented. Even so, it is known that disaster costs to individuals and the private sector have been on the rise.⁶

The Department of Homeland Security’s (DHS’s) FEMA tracks the billions it is allocated each year by Congress to support state and local governments, tribal nations, and some non-profit organizations that respond to and recover from disasters. The Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act) authorizes this support and established the Disaster Relief Fund (DRF) as the mechanism by which the

⁴ Bruce R. Lindsay and Justin Murray, *Disaster Relief Funding and Emergency Supplemental Appropriations* (CRS Report No. R40708) (Washington, DC: Congressional Research Service, 2011), 8.

⁵ Committee on Assessing the Costs of Natural Disasters, Board on Natural Disasters, Commission on Geosciences, Environment, and Resources, National Research Council, *The Impact of Natural Disasters: A Framework for Loss Estimation* (Washington, DC: National Academy Press, 1999), 6; Gall et al., “Unsustainable Trend of Natural Hazard Losses in the United States,” 2159, 2175.

⁶ Gall et al., “Unsustainable Trend of Natural Hazard Losses in the United States,” 2159–2165.

agency makes this federal funding available. FEMA provides monthly reports to Congress of DRF spending, but this accounting does not include money spent by individual federal agencies with their own response authorities. FEMA also does not provide, and has not been directed to provide, an annual report of all funding spent on disasters by the federal government, regardless of source. The agency does have a running total of what is spent on each disaster that can be accessed by the public on its website.⁷ Other means by which the federal government funds disaster response and recovery are through other federal department and agency budgets, emergency supplemental spending bills passed by Congress to replenish or supplement the DRF, and emergency funding bills providing funds directly to federal departments and agencies. Federal departments and agencies may issue budget in brief reports that detail the president's proposed budget for the current year, as well as the previous year's enacted budget. Data tables are provided summarizing agency budgets by program, but are not reports of what was spent. Former FEMA Administrator R. David Paulison recommended compiling an accurate accounting of annual disaster spending.⁸ The purpose would be to enable an analysis of the disaster spending situation, and enable the formation of recommendations and solutions to increase the effectiveness of disaster spending, while effectively managing taxpayer money.⁹

Disasters in the United States are managed under the long-held emergency management foundation, "all disasters are local." This viewpoint represents the belief and the practice that initial disaster response comes from the locality in which the incident occurs.¹⁰ Localities affected by disaster are both geographically closest to the incident resulting in the quickest response time, and have a public safety responsibility to their citizens and visitors. Reflective of this foundation, it has been noted, "By constitutional tradition and by law, the responsibility for managing emergencies...rests initially with

⁷ "Disaster Declarations," accessed January 3, 2016, <http://www.fema.gov/disasters>.

⁸ *Rebuilding After the Storm: Lessening Impacts and Speeding Recovery: Hearings before the House Subcommittee on Economic Development, Public Buildings, and Emergency Management*, 2, 9.

⁹ *Ibid.*, 3.

¹⁰ Department of Homeland Security, *National Response Framework, Second Edition* (Washington, DC: Department of Homeland Security, 2013), 6.

state and local governments.¹¹ Localities request assistance from neighboring jurisdictions and the state when existing staff and resources cannot meet the needs of the disaster response. States operate in similar fashion, based successively on local and state need. The Stafford Act is the law that dictates the federal approach to disaster management. When an affected state determines or anticipates it does not have the resources necessary to effectively respond to a disaster, a governor, or a tribal government representative for federally recognized tribes, requests federal assistance under the Stafford Act.¹² The federal government provides relief at their request.”¹³ In 2013, Congress authorized tribal governments to seek a disaster declaration directly from the president in lieu of conveying that request through a state, if the tribe so chooses.¹⁴ Costs incurred by local jurisdictions and the state or tribe are calculated as to whether they meet an impact indicator and a per capita threshold.¹⁵ These costs support a determination by the president to grant a disaster declaration to release federal funding and resources to support the incident.

The federal government is often referenced as the “insurer of last resort,” which refers to its role in providing aid after disasters.¹⁶ Understanding the amount of disaster assistance that state, tribal, and local governments may need to respond to large-scale disasters is a crucial aspect of responsible taxpayer fiscal management. The ability to request annual federal budget needs for disasters more accurately underpins a national program that supports state and tribal goals while maximizing the efficient, non-wasteful,

¹¹ Martha Derthick, “Where Federalism Didn’t Fail,” *Public Administration Review* 67, no. S1 (December 7, 2007): 36.

¹² *Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), and Related Authorities*, Pub. L. No. 93-288, as Amended, 42 U.S.C. 5121 et seq., 25.

¹³ Derthick, “Where Federalism Didn’t Fail,” 36.

¹⁴ Sandy Recovery and Improvement Act of 2015, 49 U.S.C (2015), 47–48.

¹⁵ Office of the Governor, State of Colorado, *Request for Presidential Disaster Declaration* (Denver, CO: Office of the Governor, State of Colorado, 2015), 7.

¹⁶ Donald F. Kettl, “How Much Can (and Should) Government Protect People from Natural Disaster?,” *Governing*, last modified June 2014, <http://www.governing.com/columns/potomac-chronicle/gov-insurer-of-last-resort.html>; Adelle Thomas and Robin Leichenko, “Adaptation through Insurance: Lessons from the NFIP,” *International Journal of Climate Change Strategies and Management* 3, no. 3 (2011): 259; Bjorn Philip Beer and Johanna Hoffman, “Underwater,” *Earth Island Journal* 29, no. 4 (2015): 37.

and effective management of disasters. Analyzing these issues leads to broader policy questions of whether current U.S. disaster policies reflect this country's national risk management priorities.

This study examines 20 years of data to identify trends in federal disaster spending. It explores how a more accurate understanding of taxpayer funding for disasters is needed to evaluate and support public debate comparatively regarding federal disaster spending. The number of major disaster declarations has increased dramatically since its inception in 1953.¹⁷ A correlating assumption is that federal disaster spending has also been increasing. When looking at major disaster declarations, the federal government spent \$130.6 billion on disaster relief from fiscal years (FY) 1995 through 2014.¹⁸ In that timeframe, the average annual number of major disasters declared was 58, and average annual spending was \$6.5 billion.¹⁹ Overall, the trend was that federal disaster spending increased over the past 20 years, but it was not a steady rise and fluctuated considerably. This finding does not support the notion of out of control federal disaster spending.

B. RESEARCH QUESTION

This study's primary research question is to what extent has federal disaster spending increased over the last 20 years (FY1995–2014), and what has contributed to this rise?

C. RESEARCH METHODOLOGY

This study applied grounded theory for exploratory research on a data set inclusive of 20 years of federal major disaster declaration spending from FY1995–2014. Grounded theory relies on systematically analyzing data to develop a theory based on that

¹⁷ Government Accountability Office, *Federal Disaster Assistance: Improved Criteria Needed to Assess a Jurisdiction's Capability to Respond and Recover on Its Own* (GAO-12-838) (Washington, DC: Government Accountability Office, 2012), 9.

¹⁸ Federal Emergency Management Agency, *Disaster Financial Status Report—April 2015 Reporting Cycle* (Washington, DC: Federal Emergency Management Agency, 2015).

¹⁹ Ibid.

analysis, as opposed to examining data based on an existing theory.²⁰ Utilizing this approach allowed for the manipulation of the data set using multiple variables, such as the annual spending on declared hurricanes, the cumulative cost of public assistance, the spending trends eliminating extreme or catastrophic events, and the number of disaster declarations per year, among others. Analyzing the data according to a variety of factors revealed trends and observations about federal government spending for disaster response over the past 20 years.

The research method included a mix of quantitative and qualitative analysis. Quantitative analysis examined data on 1,156 presidentially declared major disasters from FEMA's Disaster Financial Status reports. Qualitative analysis consisted of literature research of government reports from the General Accountability Office (GAO), Congressional Research Service (CRS), Office of Management and Budget (OMB), DHS, and FEMA, Congressional hearing testimonies, and other applicable reports and materials from government sources, non-governmental organizations, independent think tanks, media organizations, and academia. Together, these sources contributed to the identification of federal disaster spending trends, and factors influencing spending.

1. Selection Criteria and Rationale

The timeframe of 20 years was selected to include enough data for a trend to be indicated, while keeping the sheer range of available data sets manageable for effective and meaningful observations. This timeframe also reflects more modern cost tracking methods, technological advances in disaster response, and is inclusive of both the pre- and post-September 11, 2001, emergency management environment. This line of inquiry was established taking into account the readily accessible and publicly available data set. The scope of the study was bounded to federal spending through the DRF for major declared disasters from FY1995–2014. Finally, the identified scope enabled the interpretation and presentation of national cost trends, regardless of disaster location, state or tribal response capability, or other contributing factors.

²⁰ Barney G. Glaser and Anselm L. Strauss, *The Discovery of Grounded Theory: Strategies for Qualitative Research* (Chicago, IL: Aldine Pub. Co., 1967), 4.

2. Data Sources

The primary data source for this study was the April 2015 disaster financial status report (DFSR). These reports track all outlays under the DRF, including the five major categories of spending under a major disaster declaration: infrastructure, human services, mitigation, mission assignments, and FEMA administrative costs.²¹ Secondary data sources included CRS reports that list emergency supplemental bills passed by Congress explicitly for disaster response, and GAO reports on disaster spending.²²

3. Limits

Federal spending for disasters is governed by law and is applicable to disasters that are of such severity that state or tribal governments requesting federal assistance attest they can no longer effectively respond with their existing resources. Examining disaster spending in each state and tribal government to determine spending patterns is a valid yet not practicable exercise for the scope of this inquiry. Additionally, it is recognized that the analysis of one data set does not represent all factors contributing to spending trends. A discussion of federal spending without a complete analysis of non-disaster preparedness and pre-disaster mitigation grants distributed to state and tribal governments, for example, cannot provide a complete picture of national disaster spending. The reality of managing the scope of this study dictates a deep analysis of the described 1,156 major disaster declarations data set as one tool to contribute to a better understanding of federal disaster spending over a 20-year period. Future areas of study could examine other data sets and variables not considered in this study.

4. Output

This thesis documents the reasoning that led to the conclusion that although federal disaster spending is not out of control, a number of factors have contributed to the demonstrated trend of increased federal disaster spending over the past 20 years, even

²¹ Federal Emergency Management Agency, *Disaster Financial Status Report—April 2015 Reporting Cycle*.

²² William L. Painter, *Offsets, Supplemental Appropriations, and the Disaster Relief Fund: FY1990–FY2013* (CRS Report No. R42458) (Washington, DC: Congressional Research Service, 2012).

when controlling for inflation. Factors that contributed to this rise are discussed, including the federal government's expanding disaster scope and the associated debate on federalism, large federal cost share, low state-level per-capita damage indicator, federal provision of property insurance in hazard areas, poor disaster budgeting and tracking, and a lack of political incentive for change. Recommendations are provided that incentivize risk management and reduce federal spending of taxpayer dollars.

D. THESIS OVERVIEW

Chapter I introduces the problem space and scope of this study on federal government spending on disasters using analysis of data covering a 20-year time period. It defines the research question of how federal disaster spending has changed from FY1995 through 2014, and explains the research methodology using grounded theory, the data sources used, study limitations, and intended purpose of the study.

Chapter II identifies the themes in existing academic research, government reports, and other literature on the topic, including disaster costs and the rising number of declarations; an absence of annual accounting of all federal disaster spending, as this spending is a moral, as well as a fiduciary responsibility that the United States has been ineffective in either way, and that little incentive exists to change the existing disaster funding policy.

Chapter III reveals that U.S. taxpayers and the government officials do not have a good method of accounting for all disaster money spent from a variety of sources at the federal level, despite spending billions each year. Legislative attempts and successes are provided that aimed to address this issue.

Chapter IV analyzes FY1995–2014 DRF and other federal spending data, federal budgeting outlays and supplemental spending bills, and the number of major disaster declarations.

Chapter V discusses the key findings on spending trends resulting from the data analysis.

Chapter VI presents factors that have contributed to rising federal spending.

Chapter VII provides recommendations to manage risk better and affect the rising trend of federal disaster spending, and final study conclusions.

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II. REVIEW OF THE LITERATURE

A review of the literature on federal disaster spending resulted in four primary themes: (1) disaster quantity and costs—composed of government, private sector, not for profit, volunteer, and community-based efforts—continue to rise, (2) neither government nor the public has a good grasp on just how much the government spends on disasters each year, (3) the federal government has a moral and fiduciary responsibility to reduce spending and effectively manage taxpayer dollars, and (4) a multitude of reasons can explain why costs have increased, but disincentives exist for Congress to change the national approach to paying for disasters.

A. DISASTER COSTS CONTINUE TO RISE

The literature is in agreement that both in the United States and worldwide, disaster costs continue to rise. A 2015 United Nations report identified that global economic losses have risen since 1990.²³ The *Natural Hazards* journal declared both the frequency of and losses from billion dollar disasters in the United States have been increasing.²⁴ A 2011 article in *Sustainability* noted U.S. losses from hurricanes and flood disasters have tripled since the 1950s.²⁵ Other estimates claim natural disaster cost increases range from having tripled (over the last 40 years) to quadrupled.²⁶ While amounts differ, the general agreement is that disaster costs continue to rise. To this end, criticism and alarm at how drastically these costs are increasing is not at all lacking.²⁷

²³ United Nations Office for Disaster Risk Reduction, *Making Development Sustainable: The Future of Disaster Risk Management. Global Assessment Report on Disaster Risk Reduction* (Geneva, Switzerland: United Nations Office for Disaster Risk Reduction, 2015), 40.

²⁴ Adam B. Smith and Richard W. Katz, “US Billion-Dollar Weather and Climate Disasters: Data Sources, Trends, Accuracy and Biases,” *Natural Hazards* 67, no. 2 (2013): 389.

²⁵ Gall et al., “Unsustainable Trend of Natural Hazard Losses in the United States,” 2157.

²⁶ Ibid; Charlotte Baskin-Gerwitz, “The Rising Costs of Natural Disaster Insurance,” *American Security Project Blog*, October 7, 2013, <http://www.americansecurityproject.org/the-rising-costs-of-natural-disaster-insurance/>; Gregory E. van der Vink et al., “The Increasing Costs of U.S. Natural Disasters,” *Geotimes* 50, no. 11 (November 2015): 18.

²⁷ Stephanie Sanok Kostro, Ashley Nichols, and Abigail Temoshchuk, *White Paper on U.S. Disaster Preparedness and Resilience: Recommendations for Reform*, Pennington Family Foundation Series on Community Resilience (Washington, DC: Center for Strategic and International Studies, 2013), 8; van der Vink et al., “The Increasing Costs of U.S. Natural Disasters,” 18.

When looking domestically, the terms “cost” and “spending” are often used interchangeably, yet what they represent are drastically different. A 2011 *Sustainability* journal article highlighted the difference noting that federal government disaster spending between 1960 and 2009 was about one quarter of actual direct losses from disasters in that time period.²⁸ Federal spending, for the purposes of this study, is DRF or emergency supplemental legislation for major disaster declarations under the Stafford Act. The general understanding in the literature is that spending has increased dramatically. Yet, much of this literature describes cost or spending increases either very generally, such as cumulatively over the past 40 or 50 years, by decade, or very specifically, such as focusing on a few selected years or the most recent high-dollar disaster.²⁹ Chris Edwards of the CATO Institute emphasized this dramatic rise in spending over close to four decades, “Annual average FEMA spending was \$0.7 billion in the 1980s, \$2.8 billion in the 1990s, \$13 billion in the 2000s, and \$13 billion so far in the 2010s.”³⁰ A widely cited 2013 report from the Center for American Progress faults climate change for extreme weather events, which have cost the federal government \$136 billion from FY2011–2013.³¹

Part of the alarm is the recognition that the number of major disaster declarations issued each year has, for the most part, steadily increased since 1953.³² In a 2015 report, the CRS reviewed 60 years of disaster relief and affirmed that, “Since first introduced in 1953, the number of declarations issued each year has increased significantly.”³³ Taxpayers for Common Sense reported a 33% increase in declarations from the 1990s to

²⁸ Gall et al., “Unsustainable Trend of Natural Hazard Losses in the United States,” 2176.

²⁹ Jared Wade, “The Rising Cost of Disasters,” *Risk Management Monitor Blog*, March 25, 2011, <http://www.riskmanagementmonitor.com/the-rising-costs-of-disasters/>.

³⁰ Chris Edwards, *The Federal Emergency Management Agency: Floods, Failures, and Federalism* (Policy Analysis, no. 764) (Washington, DC: CATO Institute, 2014), 1.

³¹ Daniel J. Weiss and Jackie Weidman, *Disastrous Spending: Federal Disaster-Relief Expenditures Rise Amid More Extreme Weather* (Washington, DC: Center for American Progress, 2013), 1.

³² Bruce R. Lindsay and Francis X. McCarthy, *Stafford Act Declarations 1953–2011: Trends and Analyses, and Implications for Congress* (CRS Report No. R42702) (Washington, DC: Congressional Research Service, 2015), 1; Gall et al., “Unsustainable Trend of Natural Hazard Losses in the United States,” 2176; Carolyn Kousky and Leonard Shabman, *The Realities of Federal Disaster Aid: The Case of Floods* (Issue Brief 12–02) (Washington, DC: Resources for the Future, 2012), 3–4.

³³ Lindsay and McCarthy, *Stafford Act Declarations 1953–2014*, 1.

the 2000s.³⁴ Columnist and University of Maryland School of Public Policy dean Donald Kettl expressed well the prevailing sentiment of the literature when he wrote, “Disaster spending is up in part because disasters themselves are becoming more frequent.”³⁵ While much of the literature references this increased number of declarations as one explanation for why costs are increasing, the CATO Institute frames the argument from the opposite perspective. In a 2014 report, the Institute claims the availability of federal disaster aid, with no spending ceilings, has contributed to the increase in declarations.³⁶

In 2011, Congress passed the Budget Control Act (BCA).³⁷ As a result, for the first time, the OMB reported on the 10-year average of disaster relief spending by the federal government. The FY2012 10-year average was \$11.3 billion.³⁸ The OMB acknowledged these costs were representative only of major disaster declarations, and omitted the highest and lowest years as mandated under the Act.³⁹ The 10-year average will eventually exhibit spending trends, but it is too early in the reporting process for this outcome. In 2012, the GAO stated that FEMA had “obligated \$80.3 billion, or an average of about \$10 billion a year, from the DRF for 539 disasters declared during fiscal years 2004 through 2011.”⁴⁰ The GAO specified if Hurricane Katrina spending were withdrawn, the average would have been \$5 billion.⁴¹ The report was cumulative and did not explicitly discuss trends in the eight-year time frame, yet the spending amounts provided did not indicate a trend of rising disaster spending.⁴²

³⁴ Taxpayers for Common Sense, *Post Sandy: An Opportunity to Reshape Federal Disaster Policy and Spending Priorities* (Washington, DC: Taxpayers For Common Sense, 2013), 1.

³⁵ Donald F. Kettl, “How Hurricane Katrina Made the Feds More Powerful,” *Governing*, last modified August 2015, <http://www.governing.com/columns/potomac-chronicle/gov-hurricane-katrina-disaster-spending.html>.

³⁶ Edwards, *The Federal Emergency Management Agency*, 7.

³⁷ *Budget Control Act of 2011*, Pub. L. No. 112-25 (2011).

³⁸ Office of Management and Budget, *OMB Report on Disaster Relief Funding to the Committees on Appropriations and the Budget of the U.S. House of Representatives and the Senate* (Washington, DC: Office of Management and Budget, 2011), 1.

³⁹ Executive Office of the President, *OMB Report on Disaster Relief Funding*, 1.

⁴⁰ Government Accountability Office, *Federal Disaster Assistance: Improved Criteria Needed to Assess a Jurisdiction’s Capability to Respond and Recover on Its Own*, 18.

⁴¹ *Ibid.*

⁴² *Ibid.*, 19.

B. UNDERSTANDING DISASTER RELIEF SPENDING

On cost accounting, the literature suggests after more than 50 years of the federal government providing some type of disaster relief, an accurate annual accounting of all disaster spending by the federal government is not yet available. Former FEMA Administrator David Paulison said in 2015 that no effort had been made by Congress to study disaster cost reduction.⁴³ The National Research Council emphasized it was a problem, as no government agency is responsible for determining disaster costs.⁴⁴ The National Center for Atmospheric Research noted, “One reason it is difficult to assess the Presidential Disaster Declaration process is the lack of unified accounting for federal disaster costs, which are not tracked in a comprehensive or consistent manner.”⁴⁵

Much criticism is expressed in the literature that taxpayers, as well as the federal government, do not have good accounting measures in place to track all disaster costs annually.⁴⁶ A 2013 report by the Center for American Progress exhibited the challenge in determining spending. The Center claimed the OMB’s estimates were substantially less than actual federal spending, that 96 programs or agencies “...appear to provide some sort of disaster assistance to the American public.”⁴⁷ More recently, legislation has been proposed to help Congress gain a better understanding of the full cost of disasters to the federal government. Proposals include DISclosing Aid Spent to Ensure Relief (DISASTER) Act, the FEMA Disaster Assistance Reform Act of 2015, and the Sandy

⁴³ R. David Paulison, January 14, 2015 (8:00 AM), “Pre-storm Mitigation is Key to Cutting Damage and Costs,” *The Hill Blog*, <http://thehill.com/blogs/congress-blog/energy-environment/229252-pre-storm-mitigation-is-key-to-cutting-damage-and>.

⁴⁴ Committee on Assessing the Costs of Natural Disasters, Board on Natural Disasters, Commission on Geosciences, Environment, and Resources, National Research Council, *The Impacts of Natural Disasters: A Framework for Loss Estimation*, vii.

⁴⁵ Mary W. Downton and Roger A. Pielke, Jr., “Politics and Disaster Declarations,” *Natural Hazards Observer*, March 2001.

⁴⁶ *Federal 9/11 Assistance to New York: Part I, II, and III: Hearing before the Subcommittee On Management, Integration, and Oversight of the Committee on Homeland Security*, 109th Cong., 2 (2006), 7.

⁴⁷ Weiss and Weidman, *Disastrous Spending: Federal Disaster-Relief*, 4.

Recovery and Improvement Act of 2015.⁴⁸ The lack of effective data collection and reporting hinders effective cost control efforts.⁴⁹

C. MORAL AND FIDUCIARY RESPONSIBILITY OF MONEY MANAGEMENT

Throughout the literature was the theme of not only the fiscal, but moral and fiduciary responsibility that the federal government has to manage taxpayer dollars. In 1995, Senator Christopher Bond of Missouri expressed the need for responsible spending in the budget climate of the time.⁵⁰ At the same hearing, Missouri Representative Bill Emerson stated, “Our current policy of opening wide the federal checkbook to any and all comers each time disaster strikes cannot and should not continue.”⁵¹ In 2005, Senator Tom Coburn of Oklahoma stated, “Today’s Federal spending is not only irresponsible, but it is immoral.”⁵² Romina Boccia, a research fellow in budgetary affairs at the Heritage Foundation, highlighted the American public’s lack of faith and trust in the government to heed their budgetary spending and debt management responsibilities.⁵³

The need for effective and efficient spending of taxpayer dollars related to disasters was expressed in the literature.⁵⁴ Coburn has said that federal spending rates are unsustainable, while R. J. Lehmann wrote the rate of constructing homes and other

⁴⁸ Scott Peters, Gerry Connolly, Paul Tonko, and Steve Israel, September 18, 2014 (4:00 PM), “How Much Do Disasters Cost?” *The Hill Blog*, September 18, 2014, <http://thehill.com/blogs/congress-blog/energy-environment/218100-how-much-do-disasters-cost>; “Committee Leaders Introduce Bill to Reform Disaster Assistance Programs and Reduce Disaster Costs”; *Sandy Recovery and Improvement Act of 2013*, Pub. L. No 113-2, 127 Stat. 4 (2013).

⁴⁹ Gall et al., “Unsustainable Trend of Natural Hazard Losses in the United States,” 2177.

⁵⁰ *Intelligencer Journal*, “Federal Disaster Spending Tops \$120 Billion since ‘77,” March 16, 1995.

⁵¹ *Ibid.*

⁵² *Guns and Butter: Setting Priorities in Federal Spending in the Context of Natural Disaster, Deficits, and War: Hearings Before the Federal Financial Management, Government Information, and International Security Subcommittee of the Committee on Homeland Security and Governmental Affairs*, 109th Cong., 1 (2005) (statement of Senator Tom Coburn, Subcommittee Chairman), 2.

⁵³ *Reducing Wasteful Federal Spending: Hearings Before the Committee on Homeland Security and Governmental Affairs*, 114th Cong., 1 (2015) (statement of Romina Boccia, The Heritage Foundation), 1.

⁵⁴ Ryan Alexander, “After the Flood, Another Flood,” *Economic Intelligence Blog*, June 11, 2015, <http://www.usnews.com/opinion/economic-intelligence/2015/06/11/texas-flood-will-test-obama-disaster-relief-order>; *Post Sandy, An Opportunity*, 1, 3.

buildings in hazard areas is not sustainable.⁵⁵ A 2013 report supported this notion of unsustainability of the federal government paying an increasing amount for disasters.⁵⁶ In a 2015 Senate hearing, Chris Edwards of the CATO Institute recommended abolishing disaster relief funding by FEMA altogether, claiming state and local governments should be managing disasters.⁵⁷ He argued that federal disaster spending was wasteful, and abolishing federal disaster aid would save billions on federal spending each year.

D. DISINCENTIVE TO CHANGE

The literature reflects a great number of reasons why disaster costs continue to rise, and an explanation as to why changes have not been implemented to this end. Back in 1994, a Senate task force recommended examining declaration criteria, incentivizing mitigation measures, and increasing the use of insurance as methods to reduce disaster costs.⁵⁸ The GAO cited a rise in disaster declarations, which means an increase in events for which the federal government must cover 75% of the cost.⁵⁹ In the report, population growth in hazard areas and more active weather patterns were indicative of rising costs. In 2013, the Center for Economic Development and Research explained that more than half the U.S. population lived in coastal counties, which supports the substantial evidence in the literature that a majority of the population lives in high-hazard areas.⁶⁰ The GAO has cited many additional reasons behind the increase in disaster declarations, to include improved weather tracking technology, increases in both population and standards of living, changes in federal policies, and changes in state policies, as well as states'

⁵⁵ *Guns and Butter: Setting Priorities in Federal Spending in the Context of Natural Disaster, Deficits, and War: Hearings Before the Federal Financial Management, Government Information, and International Security Subcommittee of the Committee on Homeland Security and Governmental Affairs*; R. J. Lehmann, "Why Disaster Policy Matters," *R Street Blog*, April 22, 2015, <http://www.rstreet.org/2015/04/22/why-disaster-policy-matters/>.

⁵⁶ Sanok Kostro, Nichols, and Temoshchuk, *White Paper on U.S. Disaster Preparedness*, 8.

⁵⁷ *Reducing Wasteful Federal Spending: Hearing Before the Committee on Homeland Security and Governmental Affairs*, 114th Cong., 1 (2015) (statement of Chris Edwards, CATO Institute), 5.

⁵⁸ Rutherford H. Platt, *Disasters and Democracy: The Politics of Extreme Natural Events* (Washington, DC: Island Press, 1999), 21.

⁵⁹ Government Accountability Office, *Federal Disaster Assistance: Improved Criteria Needed to Assess a Jurisdiction's Capability to Respond and Recover on Its Own*.

⁶⁰ Terry L. Clower, "Economic Applications in Disaster Research, Mitigation, and Planning," *Advanced Research in Economic and Management Sciences* 14 (July 2013): 546.

increased understanding of the declaration process and requirements.⁶¹ The GAO also cited policy changes as a cause for a twofold increase in FEMA administrative costs for disasters.⁶²

It is commonly held in the literature that FEMA's practice of providing grant and/or relief funding to those without insurance, or insured at a lower rate than is required, disincentivizes both personal responsibility, as well as private sector full insurance coverage.⁶³ It has been reported that Congress has increasingly expanded eligibility for disaster aid, which has contributed to increasing costs.⁶⁴ The CATO Institute contends that the existence of federal disaster aid itself is a cause for increasing costs.⁶⁵ If a state knows it can receive federal funding at 75 cents on the dollar, is that an incentive to spend state funds on disaster mitigation or preparedness?

Many reasons are offered as to why disaster costs have increased, yet the literature is clear that the existing system provides little incentive for Congress to change the national approach to paying for disasters.⁶⁶ A 2001 *Public Administration Review* article summarized the logic behind the disincentives framing the issue using Peterson's legislative theory.⁶⁷ It asserts politicians are motivated by reelection, and therefore, seek to provide favors—such as disaster funding—and accept credit for this benevolent deed.⁶⁸ The authors contend that Congress prefers to wait for a disaster to occur, and then passes emergency legislation to fund the response vs. increasing FEMA's annual budget

⁶¹ Lindsay and McCarthy, *Stafford Act Declarations 1953–2014*, 11–20.

⁶² Government Accountability Office, *Federal Emergency Management Agency: Opportunities Exist to Strengthen Oversight of Administrative Costs for Major Disasters* (GAO-15-65) (Washington, DC: Government Accountability Office, 2014), 29.

⁶³ Government Accountability Office, *FEMA's Process for Tracking Public Assistance Insurance Requirements* (GAO-12-18) (Washington, DC: Government Accountability Office, 2012), 11.

⁶⁴ Judy A. England-Joseph, *Disaster Assistance: Information on Federal Costs and Approaches for Reducing Them* (GAO/T-RCED-98-139) (Washington, DC: General Accounting Office, 1998), 5.

⁶⁵ Edwards, *The Federal Emergency Management Agency*, 7.

⁶⁶ Amy K. Donahue and Philip G. Joyce, "A Framework for Analyzing Emergency Management with an Application to Federal Budgeting," *Public Administration Review* 61, no. 6 (November/December 2001): 734–735.

⁶⁷ *Ibid.*, 730.

⁶⁸ *Ibid.*

adequately to account for potential disasters. Their rationale reflects the current federal budgeting process, whereby Congress does not need to compete for emergency funds as they must do in the regular appropriations process.⁶⁹ They explain the political benefits of this approach as twofold, the appearance of immediate responsiveness, and through the regular budget process politicians, can focus on funding non-disaster programs since they know supplemental funding bills are a routine way of funding disaster response. Therefore, the incentive does not exist for Congress to change the current disaster budgetary process.

⁶⁹ Donahue and Joyce, “A Framework for Analyzing Emergency Management with an Application to Federal Budgeting,” 735.

III. BACKGROUND: TRACKING FEDERAL DISASTER SPENDING

Despite the fact that the federal government spends billions each year on disaster response and recovery, no single annual report of this spending is available. This omission contributes to this nation's inability to define the perceived spending problem accurately. Without this number, it is impossible to know the size of the federal disaster spending problem, and what to do about it. This section outlines evidence demonstrating that the United States does not have a good understanding of all annual federal disaster spending, primary sources of federal disaster funding, existing reporting processes for spending, and both successful and unsuccessful legislative attempts to address this problem.

A. THE FULL EXTENT OF DISASTER SPENDING IS NOT KNOWN

In the late 1990s, the former chair of the Natural Hazards Center, Dennis Mileti, highlighted the challenge of a comparative analysis of disaster mitigation and other projects when he emphasized the full understanding of disaster losses are not well known.⁷⁰ He cited a lack of standardized data and an efficient method of collection as reasons for the inability to perform trend analysis. Seven years later, U.S. representative Nita Lowey spoke during a hearing of the House Committee on Homeland Security, Subcommittee on Management, Integration, and Oversight that a total accounting by the federal government of the \$2 billion spent on recovery in New York for the September 11, 2001, terrorist attacks does not exist.⁷¹ Sponsors of the failed 2014 DISASTER Act summed up the need for a new way of accounting for disaster spending when they expressed the need to understand the existence and extent of the problem before attempting to implement any solutions.⁷² The GAO has reported that concerns over

⁷⁰ Dennis Mileti, *Disasters by Design: A Reassessment of Natural Hazards in the United States* (Washington, DC: Joseph Henry Press, 1999), 102.

⁷¹ *Federal 9/11 Assistance to New York: Part I, II and III: Hearings before the Subcommittee on Management, Integration, and Oversight of the Committee on Homeland Security*, 109th Cong., 2 (2006), 7.

⁷² DISClosing Aid Spent to Ensure Relief (DISASTER) Act, H.R. 5635, 113th Cong., 2 (2014).

federal disaster funding often arise in the debate over how to manage and control the national debt.⁷³ Former FEMA Administrator R. David Paulison reinforced this notion in early 2015 when he conveyed that Congress had never directed a study to analyze exact costs of disasters, nor determine ways to reduce spending.⁷⁴

Both the number of agencies that spend federal funds on disasters and the variety of funding sources contribute to a lack of understanding of federal spending on disasters annually. The Center for American Progress issued a comprehensive report in 2013 of federal disaster response and recovery spending from FY2011–2014, which highlights this complexity. The group analyzed 19 individual department and agency “budget in brief” reports, reports from the CRS, data from the Catalog of Federal Domestic Assistance, as well as supplemental spending bills.⁷⁵ Yet, in an explanation of their methodology, they admitted to possible gaps in the identification of spending.⁷⁶ Even with all these data points available to them, the Center stated:

We believe that OMB’s estimates for 2001 to 2011 did not fully account for all federal disaster spending and that these estimates are less than actual spending because OMB could have omitted some important relief and recovery programs and agencies. The estimates included spending from 26 agencies or programs in 11 federal departments, but our analysis identified a total of 96 agencies or programs in 19 departments that appear to provide some sort of disaster assistance to the American public. OMB estimated that actual disaster-relief spending in 2011 was \$2.5 billion. We estimate that the federal government spent \$21 billion on disaster relief and recovery in fiscal year 2011.⁷⁷

In its conclusion, the Center admitted its estimate of spending might be conservative, as certain department and agency data was not available. This in-depth research and data analysis is reflective of the variety of potential sources of spending information, and it was unclear whether they missed a funding source during their data collection. This

⁷³ Bruce R. Lindsay and Justin Murray, *Supplemental Appropriations for Disaster Assistance: Summary Data and Analysis* (CRS Report No. R43665) (Washington, DC: Congressional Research Service, 2014), 8.

⁷⁴ Paulison, “Pre-storm Mitigation Is Key to Cutting,” *The Hill Blog*.

⁷⁵ Weiss and Weidman, *Disastrous Spending: Federal Disaster-Relief*, 9.

⁷⁶ *Ibid.*

⁷⁷ *Ibid.*, 4.

admission in and of itself is problematic because it demonstrates a lack of clarity of all potential federal disaster funding sources. The authors emphasized that, “Currently, public officials lack complete knowledge about annual federal spending on disaster relief and recovery.”⁷⁸ This statement calls into question how disaster spending is accounted for by the federal government.

The criticism of a lack of understanding of the full extent of annual federal disaster spending is problematic in the face of calls for decreasing spending. Since at least the late 1990s, it has been acknowledged that no straightforward way does not exist for determining federal spending. The Center for American Progress report is one example that demonstrates the complexity of required sources to be obtained and analyzed to estimate spending. In light of this lack of understanding, Congressional representatives proposed the DISASTER Act in 2014, which is described in more detail in this section. This proposal included an annual report to Congress written by the OMB detailing disaster relief spending. The bill was not made into law.

The study established a lack of information on annual disaster spending, which detracts from a true understanding of funds necessary for responding to and recovering from disasters. Further, this lack of understanding has led to inadequate annual budgeting for disasters. Based on this study’s analysis of FEMA’s DRF reporting, combined with GAO information on emergency supplemental disaster appropriations bills over the past 20 years (FY1995–2014), the federal government budgeted only 34% of the funds needed for response and recovery. An improved understanding of annual disaster spending by the federal government could improve the understanding of the needs from potential state and tribal governments impacted by a disaster.

B. THE DIFFERENCE BETWEEN COST AND SPENDING

Before delving into sources of federal disaster spending, it is necessary to clarify the differences between spending and costs. These two terms are often used interchangeably but have distinct differences. Spending is the outlay of dollars from a specific source. This study analyzed disbursement of federal funds from the DRF. Cost is

⁷⁸ Weiss and Weidman, *Disastrous Spending: Federal Disaster-Relief*, 8.

a more accurate measure of a disaster's financial impact because cost incorporates all sources from which payments are made related to a disaster. These sources can include local and state government funding, private sector and non-profit organization funding, volunteer efforts, and in-kind donations, insurance company payouts, and grass roots donation contributions. The insurance industry describes it as, "...estimates of the direct, tangible devastation caused by a hazard," compiled in private sector industry databases.⁷⁹ These direct losses have been increasing. A common reason cited for this rise is the increase in hazard areas in which people choose to live, and short-sighted land management practices.⁸⁰ The accounting for all money spent in response to a disaster, including from all these stakeholders, is not centrally tracked or managed.⁸¹ Therefore, it is difficult to determine how much a disaster actually costs. An analysis of federal spending from the DRF, albeit from only one source, is a useful exercise to begin to understand the full picture of disaster spending. Other sources are described as follows.

C. FUNDING SOURCES

Limits have not been set on the amount of funding the federal government can provide as a result of a disaster.⁸² The primary methods by which the federal government funds response and recovery aid for declared disasters is through the DRF, and through emergency funding bills passed by Congress. Another source of federal disaster funds is individual department and agency budgets. It has been documented that "the full costs associated with federal disaster assistance are unknown, or at least not readily available. Assistance is provided in many forms by many federal agencies and not tracked in a comprehensive or consistent manner."⁸³ Compiling each of these funding sources in an easy-to-understand annual summary would support the consistent analysis and ability to

⁷⁹ Gall et al., "Unsustainable Trend of Natural Hazard Losses in the United States," 2176.

⁸⁰ Emily Lehr Wallace and David R. Millar, "Beating Natural Hazards to the Punch," *Geotimes*, December 2004.

⁸¹ Committee on Assessing the Costs of Natural Disasters, Board on Natural Disasters, Commission on Geosciences, Environment, and Resources, National Research Council, *The Impacts of Natural Disasters: A Framework for Loss Estimation*, 6.

⁸² Kousky and Shabman, *The Realities of Federal Disaster Aid*, 3.

⁸³ Mary W. Downton and Roger A. Pielke, Jr., "Discretion without Accountability: Politics, Flood Damage, and Climate," *Natural Hazards Review* 2, no. 4 (November 2001): 158.

compare implications of disaster policy decisions. The following sections summarize these funding sources at the federal level.

1. Disaster Relief Fund

Each year, the OMB and FEMA develop FEMA's annual budget request as part of the overall DHS budget. Part of these funds goes to day-to-day agency operations, and a designated amount is assigned specifically to the DRF. While the DRF is funded annually, any unspent funds are carried over to the next fiscal year, which is factored into budget requests. FEMA describes the DRF as "an appropriation against which FEMA can direct, coordinate, manage, and fund eligible response and recovery efforts associated with domestic major disasters and emergencies that overwhelm State resources."⁸⁴ Prior to 2012, the government considered four factors in DRF budget development:

- DRF unspent funds
- The monthly average of non-catastrophic disasters over the most recent five years
- Monthly cost estimates of catastrophic event spending, and
- Estimated recoveries of unobligated funds (money obligated (reserved for use) but was never used, as a result of project savings, scope changes, or ineligible costs)⁸⁵

The five-year monthly spending average was only for regular disasters; in other words, those below the \$500 million ceiling. Inclusion of catastrophic disasters, defined as those with a cost of over \$500 million to the federal government, was not included in the five-year average.⁸⁶ Open spending for catastrophic disaster monthly averages was calculated as a separate item. If a catastrophic event had been closed out, even if the event occurred within the most recent five years, that spending was not included in the five-year average. The CRS noted that this methodology resulted in DRF budget requests

⁸⁴ "Disaster Relief Fund: Monthly Report," accessed November 28, 2015, <http://www.fema.gov/media-library/assets/documents/31789>.

⁸⁵ Bruce R. Lindsay, *FEMA's Disaster Relief Fund: Overview and Selected Issues* (CRS Report No. R43537) (Washington, DC: Congressional Research Service, 2014), 6–7.

⁸⁶ *Ibid.*, 7.

equaling less than half of actual spending for FY2000–2011.⁸⁷ The government began using a 10-year average calculation of non-catastrophic spending together with unused DRF funds to determine budget requests.

FEMA’s system to manage DRF spending and other funds is the web-based Integrated Financial Management Information System (Web-IFMIS).⁸⁸ This system is used for salary and vendor payments, travel reimbursement, grantee payments, and “to account for the expenditure of public funds as mandated under various statutes, Executive Orders, Office of Management and Budget (OMB) guidance, regulations, and DHS and FEMA policies.”⁸⁹

2. Emergency Supplemental Spending Bills

Congress can authorize emergency spending bills, also known as supplementals, when it determines emergency funds are needed.⁹⁰ These funds are marked as emergency spending, and are not accounted for in annual budget calculations, which is one reason many have emphasized this method of funding disaster relief may not change in the near future. The 2011 Budget Control Act negated this claim somewhat, as it required Congress to identify spending offsets prior to the passage of an emergency spending bill. Offsets are funds that would have to be taken from elsewhere to pay for the emergency bill.

A challenge in accounting for disaster spending via supplementals is that these spending bills are offered for the purposes of providing funds to cover disaster costs, yet

⁸⁷ Lindsay, *FEMA’s Disaster Relief Fund*, 7.

⁸⁸ Department of Homeland Security, *Privacy Impact Assessment for the Web-IFMIS (Integrated Financial Management Information System)* (Report no. DHS/FEMA/PIA-020(a)) (Washington, DC: Department of Homeland Security, 2013), 2.

⁸⁹ Ibid.

⁹⁰ Bill Heniff, Jr., *Emergency Designation: Current Budget Rules and Procedures* (CRS Report No. 41564) (Washington, DC: Congressional Research Service, 2011), 2.

they are often filled with “pork barrel” projects not related to the disaster.⁹¹ The GAO highlighted that of the \$40 billion emergency spending bill passed by Congress in response to the terrorist attacks of September 11, 2001, only \$2 billion was allocated specifically to the DRF. This bill stated the funding was “For emergency expenses to respond to the terrorist attacks on the United States that occurred on September 11, 2001, to provide assistance to the victims of the attacks, and to deal with other consequences of the attacks.”⁹² The GAO also highlighted that supplementals were not necessarily as a result of one disaster, but were enacted as a result of several incidents taken together.⁹³ Congress has been criticized for a lack of financial discipline for potential abuse and driving up spending related to these emergency spending bills.⁹⁴

3. Department and Agency Budgets

Another funding source for disasters at the federal level is individual departments and agency budgets. When a disaster is declared, activities within the National Response Framework are implemented, whereby federal agencies are tasked with mission assignments by FEMA to execute to support response activities.⁹⁵ Taskings to federal agencies are done in this manner to specify the activity to be performed, the timeframe for execution, and to provide the funding through the DRF to cover those specified activities. As the author explains in subsequent sections, federal agencies can and do spend funds from their budgets under their own authorities for disaster response and recovery.⁹⁶ If an agency is tasked by FEMA to support a major disaster response, that

⁹¹ Taxpayers for Common Sense, *Analysis of Selected Provisions in Hurricane Sandy Emergency Spending Proposals* (Washington, DC: Taxpayers for Common Sense, 2012); Carolyn Kousky and Leonard Shabman, *A New Era of Disaster Aid? Reflections on the Sandy Supplemental* (Issue Brief 13–05) (Washington, DC: Resources for the Future, 2013), 1; Heniff, Jr., *Emergency Designation: Current Budget Rules and Procedures*, 9.

⁹² *2001 Emergency Supplemental Appropriations Act for Recovery from and Response to Terrorist Attacks on the United States*, Pub. L. No. 107-38, 115 Stat. 220 (2001).

⁹³ Heniff, Jr., *Emergency Designation: Current Budget Rules and Procedures*, 5–6.

⁹⁴ Veronique de Rugy, *Disaster Aid Spending: FEMA’s Track Record* (Arlington, VA: Mercatus Center, George Mason University, 2011).

⁹⁵ Department of Homeland Security, *National Response Framework, Second Edition*, 36.

⁹⁶ Bruce R. Lindsay, *Federal Emergency Management: A Brief Introduction* (CRS Report No. R42845) (Washington, DC: Congressional Research Service, 2012), 17.

agency can recoup the costs of conducting its activities. As noted later in this chapter, only five percent of major disaster spending over the past 20 years has gone to tasking other federal agencies through a mission assignment. The amount that federal agencies have spent independently and not part of a mission assignment is research for a future study, as it is beyond the scope of this inquiry. Regardless, it brings to light the point that this spending amount is not easily determined. Even a spending report by the GAO was criticized for an inadequate accounting of federal disaster dollars spent, by underestimating spending by close to \$20 billion.⁹⁷ The fact that the GAO numbers could be construed as an estimate is in itself telling.

Some agencies have inherent authorities and responsibilities for disaster response and recovery that are paid for out of each agency's budget. For example, the U.S. Coast Guard has several authorities granted to it that do not require a mission assignment to be executed.⁹⁸ The Coast Guard emphasizes its "unique position in the Nation; as a military, law enforcement, and first responder agency" where it is "specifically authorized to provide assistance to another federal agency, a state, or local governmental entity, when its personnel or facilities are especially qualified."⁹⁹ The U.S. Army Corps of Engineers (USACE) has its own federal authority for disaster preparedness, emergency operations, inspection and rehabilitation of flood risk management projects, advanced measures for imminent flooding, drought assistance, and emergency water assistance.¹⁰⁰ The Department of Health and Human Services (HHS) has authority to respond to public health and medical emergencies and disaster situations without a disaster declaration that warrant HHS expertise and resources.¹⁰¹ Disaster spending that occurs as part of department and agency programs is not counted as part of the DRF. Unless specifically

⁹⁷ Weiss and Weidman, *Disastrous Spending: Federal Disaster-Relief*, 4.

⁹⁸ U.S. Coast Guard, *Incident Management and Crisis Response* (Publication no. 3-28) (Washington, DC: U.S. Coast Guard, 2014), 43–56.

⁹⁹ *Ibid.*, 7.

¹⁰⁰ U.S. Army Corps of Engineers, *Emergency Response Fact Sheet* (Washington, DC: U.S. Army Corps of Engineers, n.d.).

¹⁰¹ "Office of the Assistant Secretary for Emergency Preparedness and Response," last modified April 24, 2013, <http://www.phe.gov/preparedness/support/secauthority/pages/default.aspx>.

requested, this spending is not reported as part of a comprehensive accounting of all federal disaster spending.

D. FRAGMENTED REPORTING PROCESS

The federal government lacks a single, annual source documenting disaster spending. Notwithstanding that billions are spent each year on disaster response and recovery, the fragmented process of reporting on disaster spending endures. This section describes specialized spending reports issued by government agencies, as well as specific reporting mandates that originate from emergency supplemental spending bills.

1. Monthly Reports

The federal government issues a report on a regular basis that provides a piece of the federal disaster spending picture. The FEMA disaster relief fund monthly report is a comprehensive, congressionally-mandated document including appropriations, obligations, and balances of DRF monies.¹⁰² This report provides a running tally of the DRF balance, a monthly summary of expenditures by catastrophic event, and specific expenditures for Hurricane Sandy.¹⁰³ While the final monthly report in a fiscal year can provide an indication of annual DRF spending, the mandate does not include an annual summary as a requirement. Consequently, an understanding of stated financial terms of appropriation, deobligation, recovery, carryover, transfer, rescission, authority available, unobligated balance, unobligated commitments, and reserves are required to interpret the outcomes of each report.¹⁰⁴ Putting aside the intricate accounting and budgetary terms, the DRF monthly report is a valuable data source for the development of an easy to understand annual disaster spending report.

¹⁰² *Consolidated and Further Continuing Appropriations Act, 2013*, Pub. L. No. 113-6, 127 Stat. 361 (2013).

¹⁰³ Federal Emergency Management Agency, *Disaster Relief Fund: Monthly Report, As of September 30, 2015, (Final Report for Fiscal Year 2015)* (Washington, DC: Federal Emergency Management Agency, 2015), 2, <http://www.fema.gov/media-library-data/1444411951711-e7859ffcc9ef17f26e88fdd87ddf33d8/September2015DisasterReliefFund.pdf>.

¹⁰⁴ *Ibid.*, 4.

2. Congressional Research Service, Government Accountability Office, and Office of Management and Budget Reports

Other agencies in the executive branch issue reports on an ad-hoc basis that contribute to the understanding of disaster spending. The CRS prepares analytical reports on new legislation, changes in policy, or issues relevant to congressional representatives for improved policy decision making. The federalism and emergency management research section of the CRS develops reports on homeland security, including funding for emergency prevention, protection, mitigation, response, and recovery. The GAO, an independent agency headed by the Comptroller General, issues reports to Congress on the spending of taxpayer dollars for accountability and performance measures. The OMB, a component of the Executive Office of the President, has delivered a number of reports on discretionary spending related to sequestration, which is characterized by automatic across the board spending cuts for congressional appropriations if spending limits are exceeded.¹⁰⁵ The OMB issued its first full report on 10-year averages of federal disaster spending in January 2012, as a result of the Budget Control Act of 2011.¹⁰⁶ The Office issued a number of other reports related to sequestration, each containing an analysis on the discretionary disaster funding ceiling. These reports will continue through 2021.¹⁰⁷

3. Disaster Supplemental Bills

Emergency supplementals surpassed regular budget allocations to be the primary source of federal disaster funding over the 20-year period of this study. In 2014, the CRS documented that the September 11, 2001, emergency supplemental spending bill (Pub. L. No. 109-234) allocated funding to 19 federal agencies.¹⁰⁸ No mechanism exists by which these agencies report how they spend this funding. The emergency spending bill for Hurricane “Superstorm” Sandy passed by Congress in January 2013 required FEMA to

¹⁰⁵ “Sequestration,” last modified November 4, 2015, <https://www.cbo.gov/taxonomy/term/33/> featured.

¹⁰⁶ Executive Office of the President, *OMB Report on Disaster Relief Funding to the Committees on Appropriations and the Budget of the U.S. House of Representatives and the Senate* (Washington, DC: Office of Management and Budget, 2011), 1.

¹⁰⁷ Executive Office of the President, *OMB Sequestration Update Report to the President and Congress for Fiscal Year 2016* (Washington, DC: Office of Management and Budget, 2015), 1.

¹⁰⁸ Lindsay and Murray, *Supplemental Appropriations for Disaster*, 2.

provide a monthly report on spending under the DRF specifically for Sandy.¹⁰⁹ In this act, Congress mandated FEMA and USACE to submit monthly or quarterly reports, or both, on how monies allocated to these agencies were spent.¹¹⁰ Congress also mandated quarterly reports to be prepared through September 2015 by the Recovery Accountability and Transparency Board on “activities related to funds appropriated for the impact of Hurricane Sandy.”¹¹¹ The Board was created by the 2009 Recovery Act to oversee federal funds.¹¹² Aside from these stated requirements, no other mandate exists to report federal disaster spending.

E. LEGISLATIVE ATTEMPTS TOWARD AN IMPROVED UNDERSTANDING OF FEDERAL DISASTER SPENDING

Five notable pieces of legislation were introduced from 2006–2015 aimed at achieving a better understanding of disaster spending by the federal government. Of the five, two were signed into law, the Budget Control Act of 2011, and the Sandy Recovery and Improvement Act of 2013. The three bills that were proposed but did not pass include the National Emergency Management Reform and Enhancement Act of 2006, DISASTER Act, and the FEMA Disaster Assistance Reform Act of 2015.¹¹³

1. Budget Control Act of 2011

The Budget Control Act of 2011 was noteworthy to the process of disaster response budget estimating, as well as to improving the understanding of the range of federal agencies receiving disaster funds. The Act put into place limits on discretionary spending from FY2012–2021, and provided the OMB with the authority to implement

¹⁰⁹ *Sandy Recovery and Improvement Act of 2013*, Pub. L. No. 113-2, 127 Stat. 29 (2013).

¹¹⁰ *Ibid.*, Stat. 5.

¹¹¹ *Ibid.*, Stat. 18.

¹¹² *American Recovery and Reinvestment Act of 2009*, Pub. L. No. 111-5, 123 Stat. 289 (2009).

¹¹³ National Emergency Management Reform and Enhancement Act of 2006, H.R. 5351, 109th Cong., 2 § 302 (2006); Peters et al., “How Much Do Disasters Cost,” *The Hill Blog*; “Committee Leaders Introduce Bill to Reform Disaster Assistance Programs and Reduce Disaster Costs.”

sequestration if necessary.¹¹⁴ Sequestration, or automatic across the board budget cuts, would be implemented at the federal level if a plan to reduce the deficit by a specific amount were not established. Specific to disaster management, the Act required a 10-year calculation by the government of federal disaster appropriations to determine discretionary funding ceilings. This new method of calculation is similar to the previous budget development process incorporating the past five years of disaster spending; however, it is distinct in that the Act mandates the OMB to provide a report on the average of the previous 10 years' annual disaster relief funding, minus the highest and lowest years.¹¹⁵

FEMA and the OMB changed the way in which they jointly formulate budget requests to meet the BCA's mandate. Four factors were formerly used, now only two are, consideration of all previous disaster spending, and calculation of a 10-year spending average for non-catastrophic (under \$500 million) events.¹¹⁶ It is understood that to determine this 10-year average of disaster relief funding, each year's amounts must be calculated. The OMB's methodology includes accounting for annual disaster funds allocated to any federal agency, either through the regular budget process or through supplemental appropriations. In its initial report mandated by the BCA on disaster funding, the OMB performed an exhaustive compilation of funding received from 11 agencies in 29 different accounts.¹¹⁷ Funding was only considered for major disaster declarations under the Stafford Act, or activities specified as directly pursuant to the declaration.¹¹⁸ FEMA supports this new approach using a 10-year spending average for non-catastrophic events.¹¹⁹ Utilization of this new calculation resulted in larger DRF

¹¹⁴ *Budget Control Act of 2011*, Pub. L. No. 112-25 (2011); Government Accountability Office, *Agency Operations: Agencies Must Continue to Comply with Fiscal Laws Despite the Possibility of Sequestration* (GAO 12-675-T) (Washington, DC: Government Accountability Office, 2012), 9.

¹¹⁵ *Budget Control Act of 2011*, Pub. L. No. 112-25, 125 Stat 244 (2011).

¹¹⁶ Lindsay, *FEMA's Disaster Relief Fund*, 8.

¹¹⁷ Executive Office of the President, *OMB Report on Disaster*, 3.

¹¹⁸ *Ibid.*, 2.

¹¹⁹ Department of Homeland Security, *Department of Homeland Security Federal Emergency Management Agency Disaster Relief Fund: Fiscal Year 2013 Congressional Justification* (Washington, DC: Department of Homeland Security, n.d.), 5-6.

budget requests in 2013 and 2014, \$6.1 and \$6.2 billion, respectively.¹²⁰ It could be argued that this new methodology results in a more realistic budget request, as all disaster funding is taken into consideration.

This process is required under the BCA through 2021, and is an excellent source to account for annual budgeting for disaster response. This new approach provides a comprehensive computation of federal funding allocated to many agencies; however, it does not provide detailed information on disaster spending for all funded departments and agencies. FEMA's calculations are based on spending through the DRF, whereas other department and agency numbers are based on funding allocated by Congress. These two financial aspects are distinct. It may be contended that the annual budget process is a function of assessing what a department or agency spent the previous year, and determining whether less or more is needed. Regardless, the fact remains no annual reporting of federal disaster spending is available through which the government and the public can evaluate disaster spending programs and policies.

2. Sandy Recovery and Improvement Act of 2013

The Sandy Recovery and Improvement Act of 2013 is Division B of the 2013 emergency supplemental appropriation to provide funding for response and recovery to Hurricane Sandy that hit the northeastern seaboard in October and November 2012.¹²¹ As noted throughout this study, the issuance of emergency supplemental bills to fund disasters is common; Congress has passed emergency supplementals in 75% of the years from FY1995–2014. What was unique in this Act was the mandate for FEMA to develop a national strategy detailing how to reduce disaster costs, loss of life, and injuries.¹²² Congress noted the report must include recommendations for resiliency measures to reduce disaster costs. FEMA submitted its report in September 2013 with recommendations for the development of a national strategy. The report is more of a

¹²⁰ Department of Homeland Security, *FY 2013 Budget in Brief* (Washington, DC: Department of Homeland Security, 2013), 152; Department of Homeland Security, *FY 2014 Budget in Brief* (Washington, DC: Department of Homeland Security, 2014), 171.

¹²¹ *Sandy Recovery and Improvement Act of 2013*, Pub. L. No 113-2, 127 Stat. 39 (2013).

¹²² *Ibid.*, Stat. 49.

review of things to consider when developing a strategy, versus a strategy itself. It describes existing programs in place at FEMA aimed at reducing costs, and describes recommendations using the whole community approach toward the themes of government capabilities integration, mutual aid, housing, overlap and duplication of effort, reducing disaster deaths, and regional and national demographics.¹²³ The report also recommended incentivizing preparedness and reducing risk, using data as the basis for improving financial disbursement and management, and evaluating disaster declaration models.¹²⁴ Finally, the report says it is necessary to have a better understanding of risk and risk management approaches, and identify the primary factors impacting increasing disaster costs.¹²⁵

Given the 180-day timeframe in which Congress required FEMA to develop a national strategy, it is not surprising that the report simply provided areas to consider when developing a strategy. However, the intent of the mandate was sound; the country must determine an approach it wants to take to reduce disaster costs. A shortcoming of the mandate is attempting to solve the problem before understanding what the problem actually is. Are ever-increasing amounts being spent on debris removal each year? Are under-insured or uninsured individuals being subsidized at ever-increasing rates? Is the majority of federal spending going toward coastal disasters? These questions are but a few that would need to be answered to understand the picture of disaster spending in this country, before solutions can be put into place.

3. National Emergency Management Reform and Enhancement Act of 2006

This bill called for any federal agency using federal funds for any type of disaster to report to its department or agency inspector general on the use of those funds.¹²⁶ The

¹²³ Federal Emergency Management Agency, *National Strategy Recommendations: Future Disaster Preparedness* (Washington, DC: Federal Emergency Management Agency, 2013), 10–17.

¹²⁴ *Ibid.*

¹²⁵ *Ibid.*

¹²⁶ National Emergency Management Reform and Enhancement Act of 2006, 142–143.

first report would have been required within one year of passage of the appropriation, and subsequent reports every six months until all disaster-related funds were expended.

4. Disclosing Aid Spent To Ensure Relief (DISASTER) Act

The DISASTER bill was introduced in September 2014, but was not enacted. Yet, it is meaningful in what it would have required. The purpose of the bill was, “to require the Director of the Office of Management and Budget to annually submit to Congress a report on all disaster-related assistance provided by the Federal Government.”¹²⁷ Interestingly, the methodology the OMB implemented as a result of the BCA meets this requirement, short of sending an annual report to Congress. The findings of the DISASTER Act bill stressed, “The Federal Government does not provide a single, publicly available estimate of the amount it is spending on disaster-related assistance.”¹²⁸ It referenced a more knowledgeable appropriations process, and only when understanding what the government currently spends can areas for cost savings be identified. The bill sponsors blogged of the need for accurate disaster budgeting, “As neighbors, friends, and fellow Americans, we have a responsibility to ensure that impacted communities get back on their feet after a disaster strikes. ...Understanding the full cost of disasters will help Congress and the President create budgets that more accurately reflect the needs of our communities and help us avoid spending billions of dollars that we hadn’t planned on.”¹²⁹

5. FEMA Disaster Assistance Reform Act of 2015

The FEMA Disaster Assistance Reform Act was introduced to provide funding and approve certain FEMA programs. A feature of the bill was a mandate for FEMA to conduct a disaster cost and loss study via the National Advisory Council, and include recommendations to control disaster spending and identify cost savings.¹³⁰ This mandate was noteworthy in that it would have identified trends in both disaster costs and the

¹²⁷ DISClosing Aid Spent to Ensure Relief (DISASTER) Act, H.R. 5635, 113th Cong., 2 (2014), 1.

¹²⁸ Ibid., 2.

¹²⁹ Peters et al., “How Much Do Disasters Cost,” *The Hill Blog*.

¹³⁰ FEMA Disaster Assistance Reform Act of 2015, H.R. 1471, 114th Cong., 1 (2015), 3.

number of disaster declarations, the factors contributing to these trends, identification of cost reduction and mitigation incentives, and potential barriers to implementation of these measures. In publicizing the need for this bill, U.S. Representative Lou Barletta highlighted the information void when he stated, “It’s been over 20 years since we’ve had a comprehensive look at disaster spending.”¹³¹

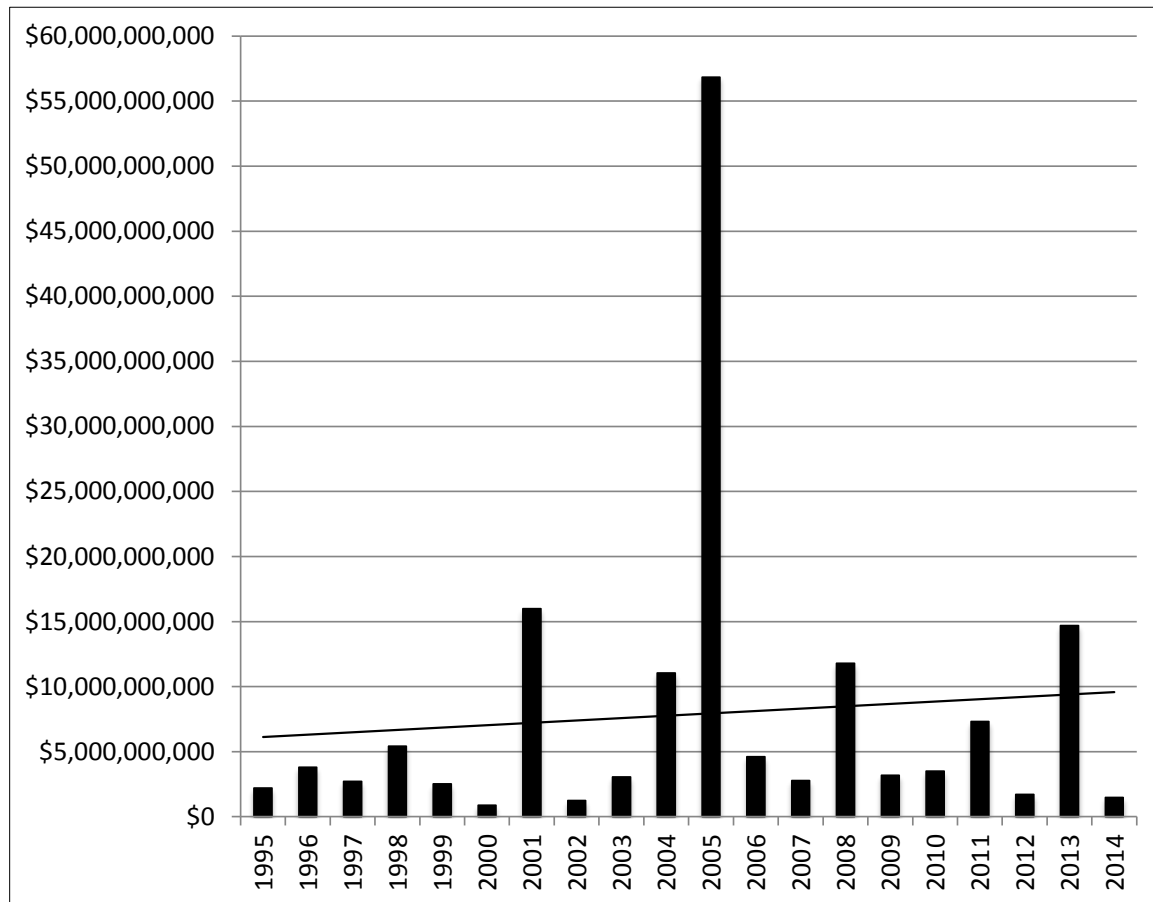
Each of these proposed and successful legislative efforts demonstrates the lack of, and the need for, a more comprehensive way to gauge annual federal disaster spending. The absence of a single comprehensive federal disaster spending report is necessary to account for and assess the billions spent annually on disaster relief.

¹³¹ “Committee Leaders Introduce Bill to Reform Disaster Assistance Programs and Reduce Disaster Costs.”

IV. ANALYSIS OF THE DATA: TWENTY YEARS OF DISASTER SPENDING

The federal government spent \$130.6 billion on major disaster declarations through the DRF over a 20-year period, from FY1995–2014. This study analyzed data from FEMA’s disaster financial status report, April 2015 reporting cycle, to develop illustrative depictions of disaster spending trends. Spending for 1,156 major declared disasters did not exhibit a predictable pattern of annual increases, yet demonstrated an overall upward trend. Yearly spending was dependent upon the number of disasters declared, and the severity of the damage. It is far from “skyrocketing” or “out of control” spending dominating headlines. Escalating federal disaster spending was evident even when controlling for inflation, as demonstrated by the rising horizontal trend line shown in Figure 1. The upward trend does call into question why government spending continued to increase, despite advances in technology, improved warning systems, and increased experience with disasters.

Figure 1. Disaster Relief Fund Spending, FY1995–2014 (Adjusted to 2014 Dollars)

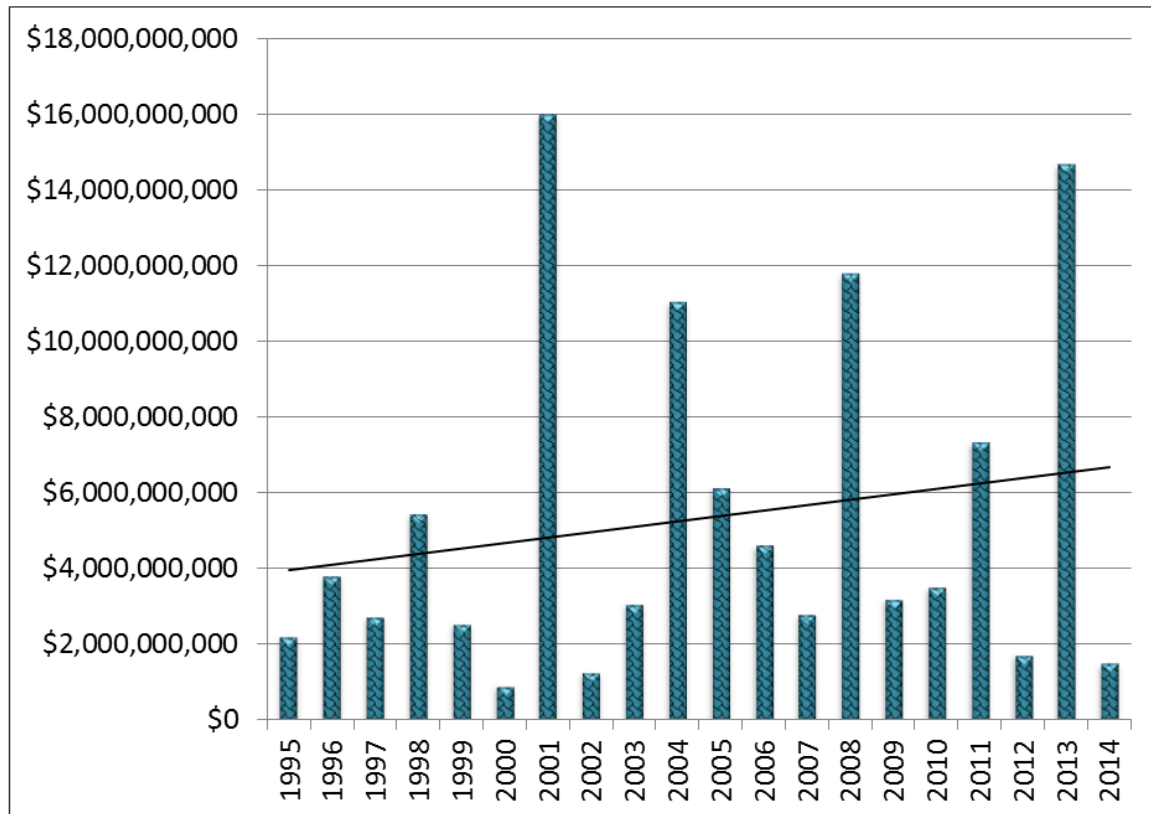


Adapted from Federal Emergency Management Agency, *Disaster Financial Status Report—April 2015 Reporting Cycle* (Washington, DC: Federal Emergency Management Agency, 2015); Robert C. Sahr, *Consumer Price Index (CPI) Conversion Factors for Years 1774 to Estimated 2025 to Convert to Dollars of 2014* (Corvallis, OR: Oregon State University, 2015).

The federal government spent the most from the DRF in 2005, the year of Hurricanes Katrina, Rita, and Wilma. That year's \$47 billion DRF spending was unprecedented, and that level has not been seen before or since. Hurricane Sandy in 2012 resulted in a supplemental spending bill of \$50.5 billion; however, only \$11.5 billion of that amount was allocated to the DRF.¹³² The rising disaster spending trend existed even when removing the four declarations for Hurricane Katrina, as shown in Figure 2.

¹³² William L. Painter and Jared T. Brown, *FY2013 Supplemental Funding for Disaster Relief* (CRS Report No. R42869) (Washington, DC: Congressional Research Service, 2013), 8.

Figure 2. Disaster Relief Fund Spending, Minus Hurricane Katrina Spending, FY1995–2014 (Adjusted to 2014 Dollars)

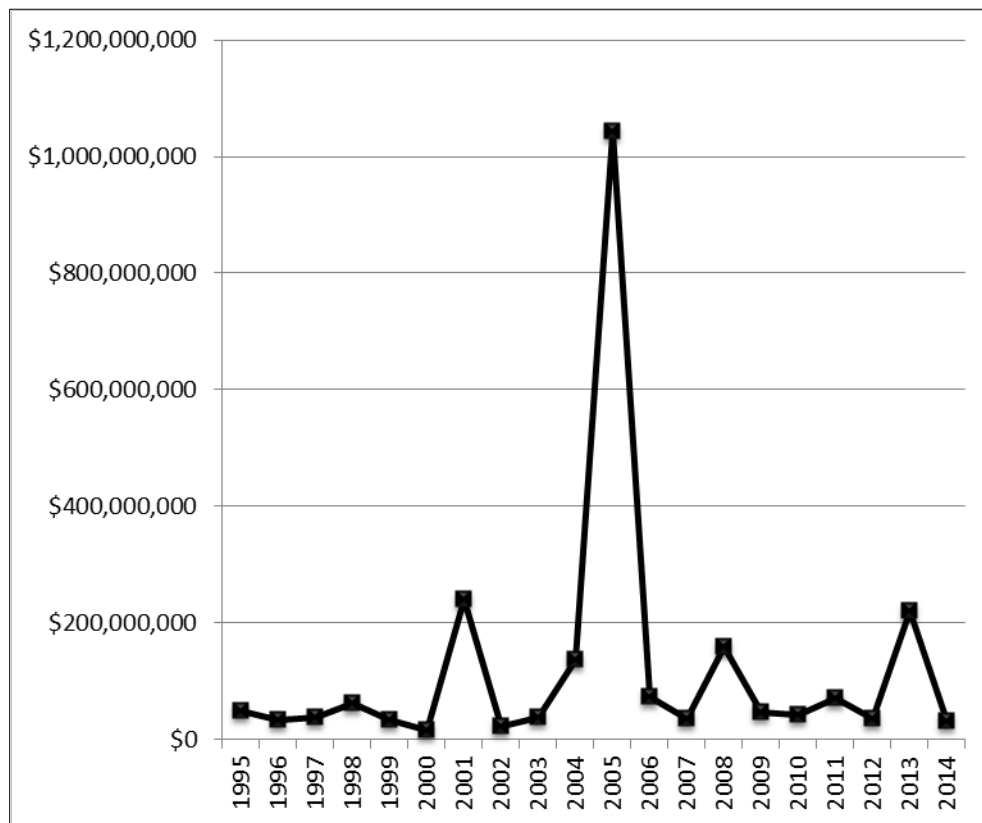


Adapted from Federal Emergency Management Agency, *Disaster Financial Status Report—April 2015 Reporting Cycle* (Washington, DC: Federal Emergency Management Agency, 2015); Robert C. Sahr, *Consumer Price Index (CPI) Conversion Factors for Years 1774 to Estimated 2025 to Convert to Dollars of 2014* (Corvallis, OR: Oregon State University, 2015).

Over the past 20 years, the federal government averaged \$6.5 billion a year in spending for disaster relief.¹³³ The range of spending varied, from \$652 million in 2000 to \$47 billion in 2005. The average amount spent on any single major declared disaster was \$112.8 million, as depicted in Figure 3.

¹³³ FEMA, *Disaster Financial Status Report, April 2015 Reporting Cycle*.

Figure 3. Average Disaster Relief Fund Spending per Disaster Event, FY1995–2014



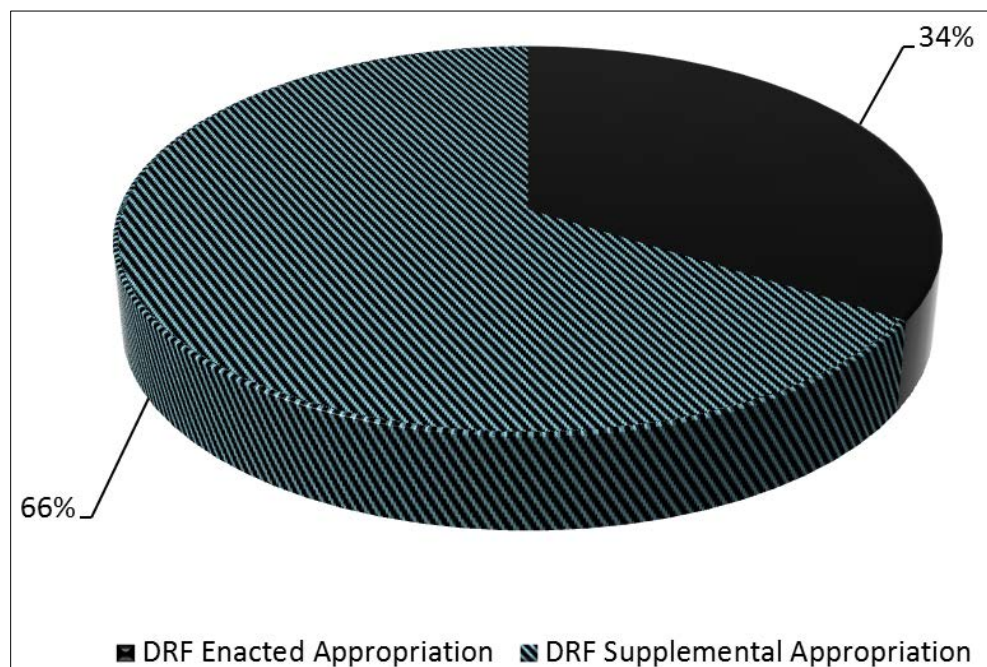
Adapted from Federal Emergency Management Agency, *Disaster Financial Status Report—April 2015 Reporting Cycle* (Washington, DC: Federal Emergency Management Agency, 2015).

A. COMPARISON OF REGULAR APPROPRIATIONS AND EMERGENCY SPENDING BILLS

Data analysis showed that Congress allocated \$45 billion to the DRF through the regular budget process, and issued \$110 billion in supplemental funding by passing emergency spending bills. To provide some perspective, Congress allocated 0.18 percent—less than one quarter of one percent—of the 2015 federal budget to disaster relief.¹³⁴ Budgeted dollars represented 34% of all DRF major disaster funds spent over 20 years, and supplemental funding represented 66%, as depicted in Figure 4.

¹³⁴ “Budget,” accessed November 1, 2015, <https://www.cbo.gov/topics/budget>.

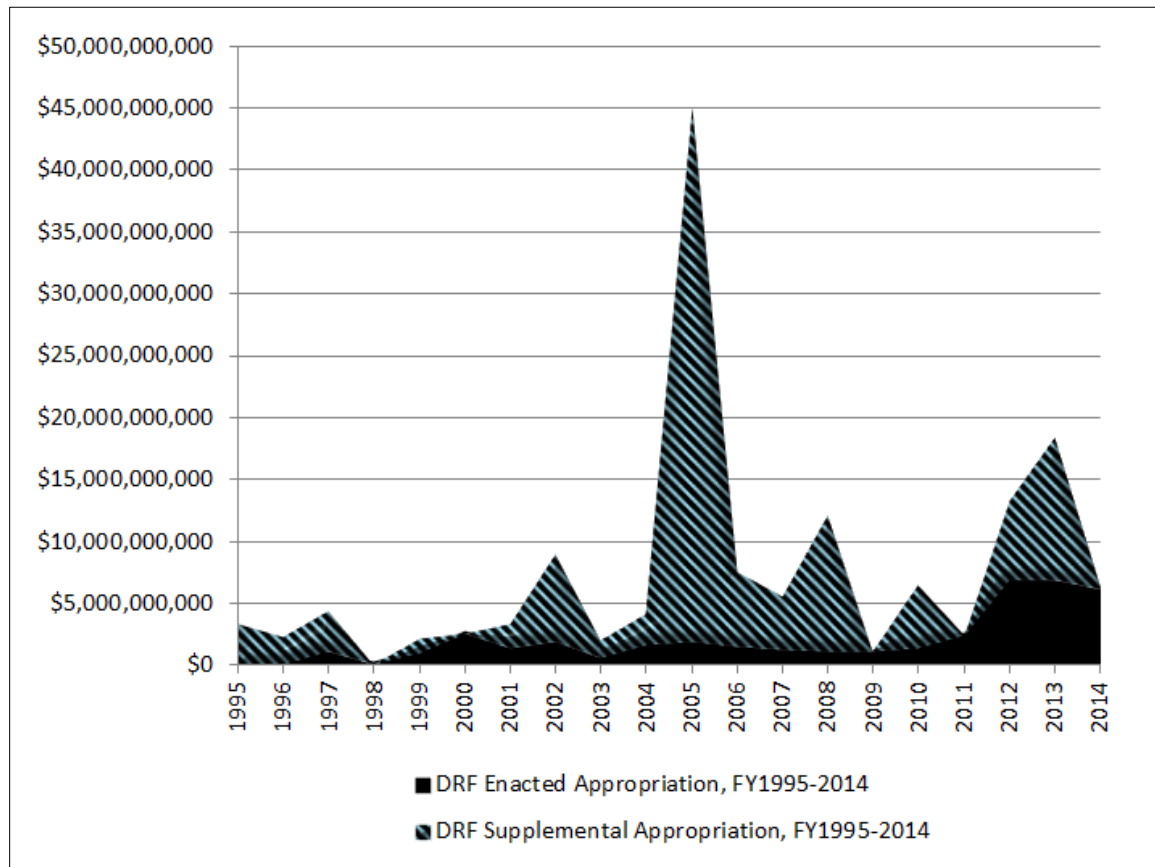
Figure 4. Percentage of Disaster Relief Fund Spending, by Budgeted and Supplemental Appropriations, FY1995–2014



Adapted from Bruce R. Lindsay, *FEMA's Disaster Relief Fund: Overview and Selected Issues* (CRS Report No. R43537) (Washington, DC: Congressional Research Service, 2014, 8–9).

Congress passed supplemental spending bills in 15 of the 20 years considered in this study. Emergency funding exceeded regularly budgeted disaster funding by a factor of 2.4, demonstrating a considerable discrepancy in planned versus actual disaster spending, shown in Figure 5.

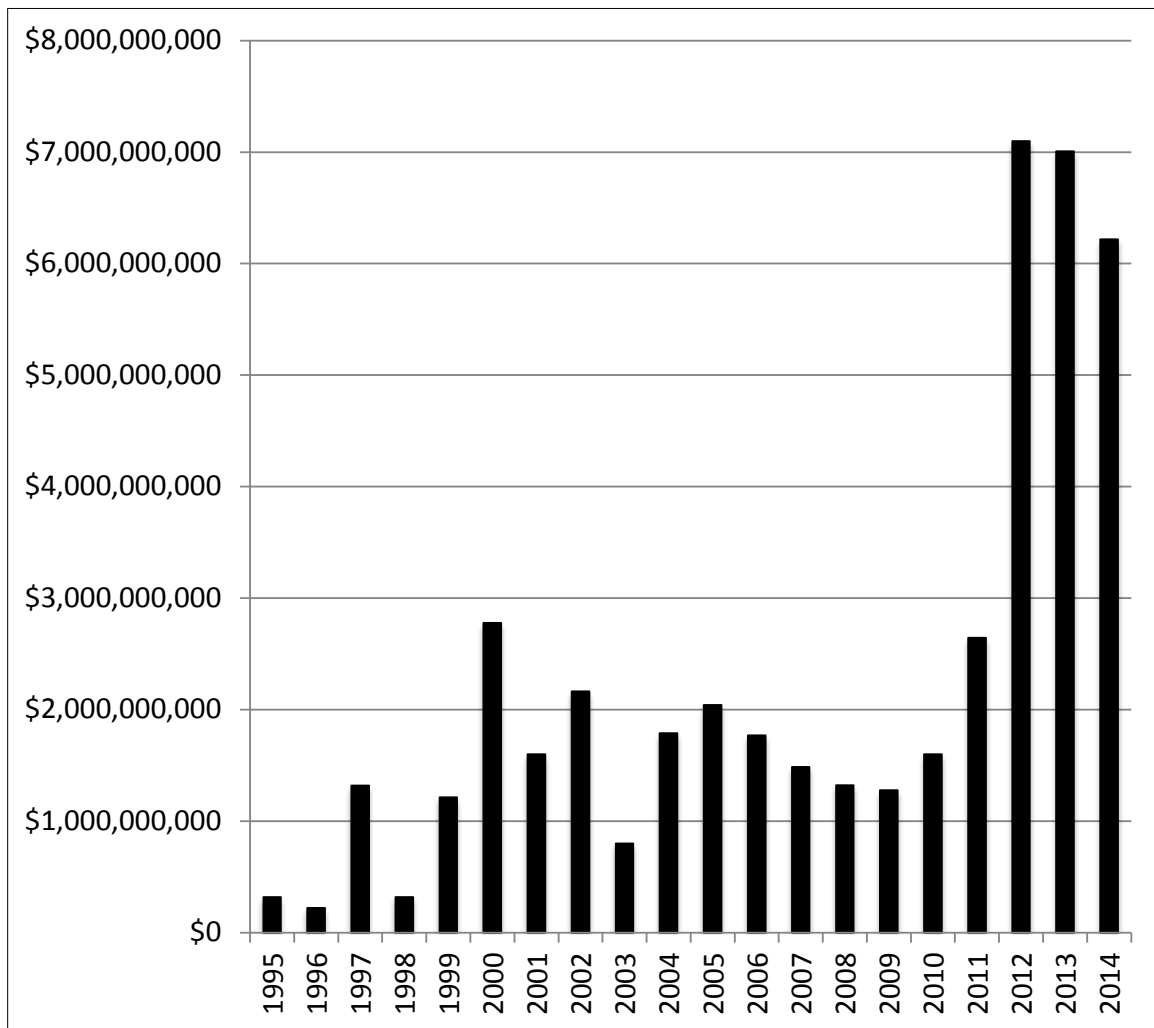
Figure 5. Comparison of Disaster Relief Fund Budgeted and Supplemental Appropriations, FY1995–2014



Adapted from Bruce R. Lindsay, *FEMA's Disaster Relief Fund: Overview and Selected Issues* (CRS Report No. R43537) (Washington, DC: Congressional Research Service, 2014, 8–9).

The financial gap between budgeted and supplemental disaster funding began to shrink with passage of the Budget Control Act of 2011. The Act changed the FEMA budget request process, resulting in annual DRF budgeted funding that rose noticeably beginning in 2012, as demonstrated in Figure 6.

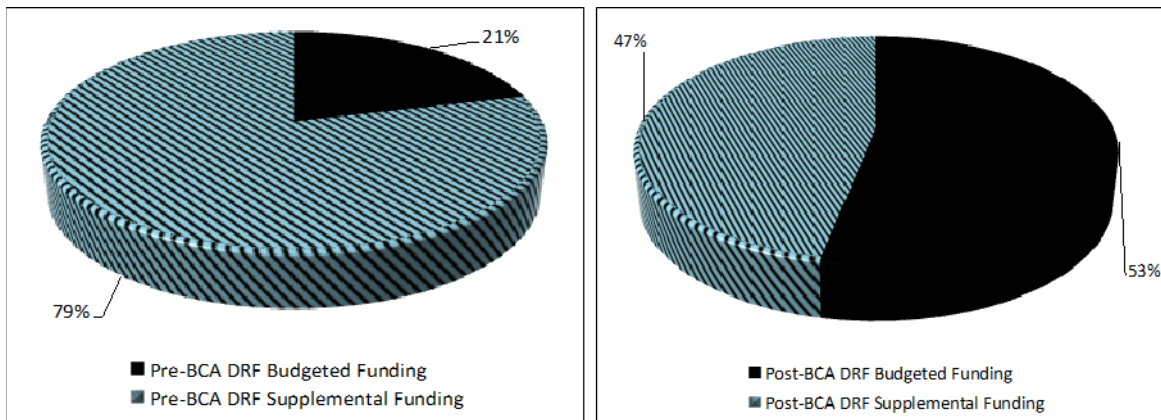
Figure 6. Disaster Relief Fund Enacted Appropriations, FY1995–2014



Adapted from Bruce R. Lindsay, *FEMA's Disaster Relief Fund: Overview and Selected Issues* (CRS Report No. R43537) (Washington, DC: Congressional Research Service, 2014, 8–9).

More than three quarters (79%) of DRF funding prior to enactment of the BCA was accomplished through emergency supplementals. It is evident the Act resulted in a higher percentage of funding allocated under the regular budget process as compared to emergency supplemental spending bills, as depicted in Figure 7.

Figure 7. Disaster Relief Fund Allocation, Pre- and Post-budget Control Act, FY1995–2014



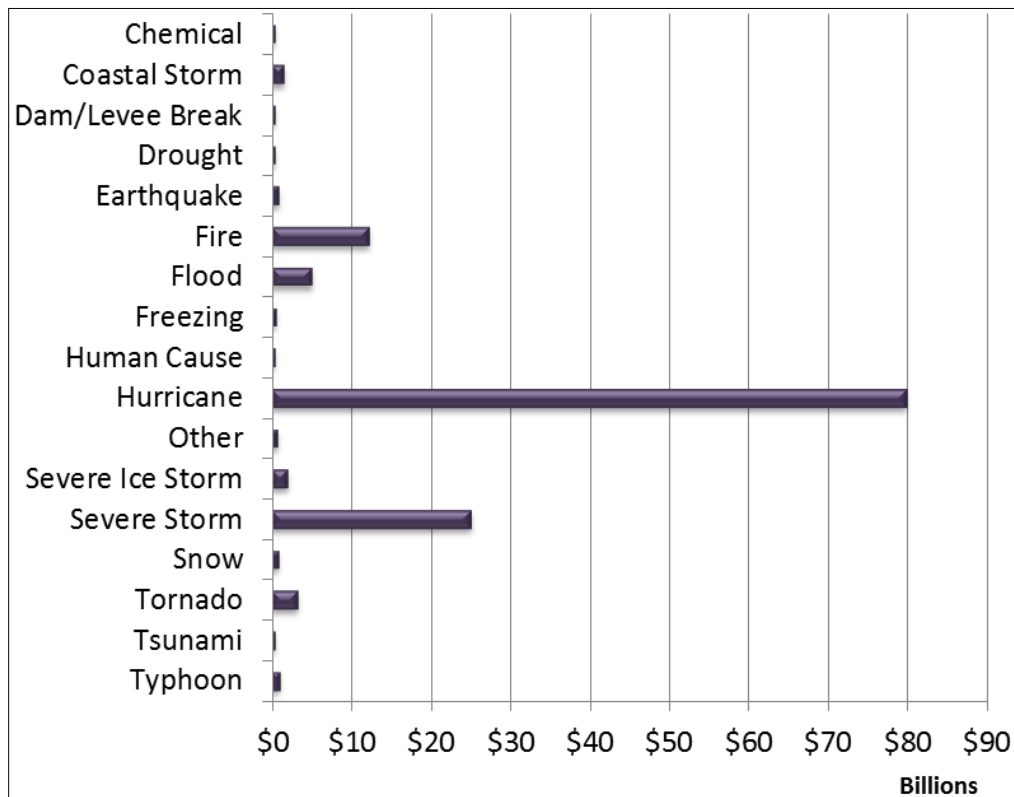
Adapted from Bruce R. Lindsay, *FEMA's Disaster Relief Fund: Overview and Selected Issues* (CRS Report No. R43537) (Washington, DC: Congressional Research Service, 2014, 8–9).

B. SPENDING BY DISASTER TYPE

Often, the issue of federal disaster spending is raised after a large disaster requiring billions of federal dollars to help state and local communities recover from substantial damage. Taken as a single event, spending levels could seem alarming. Reports of improperly dispersed funds or waste, fraud, and abuse of tax dollars after disasters are not uncommon. While improper use of funds is a valuable issue for analysis, it is beyond the scope of this study. This section explores spending by disaster type, and identifies hurricanes, severe storms, and fire as the disaster types with the most federal spending.

Analysis of the data showed that hurricanes were the disaster type that received the most federal spending, by a large margin, depicted in Figure 8. Hurricane spending represented more than half of all DRF spending over 20 years.

Figure 8. Disaster Relief Fund Spending by Disaster Type, FY1995–2014

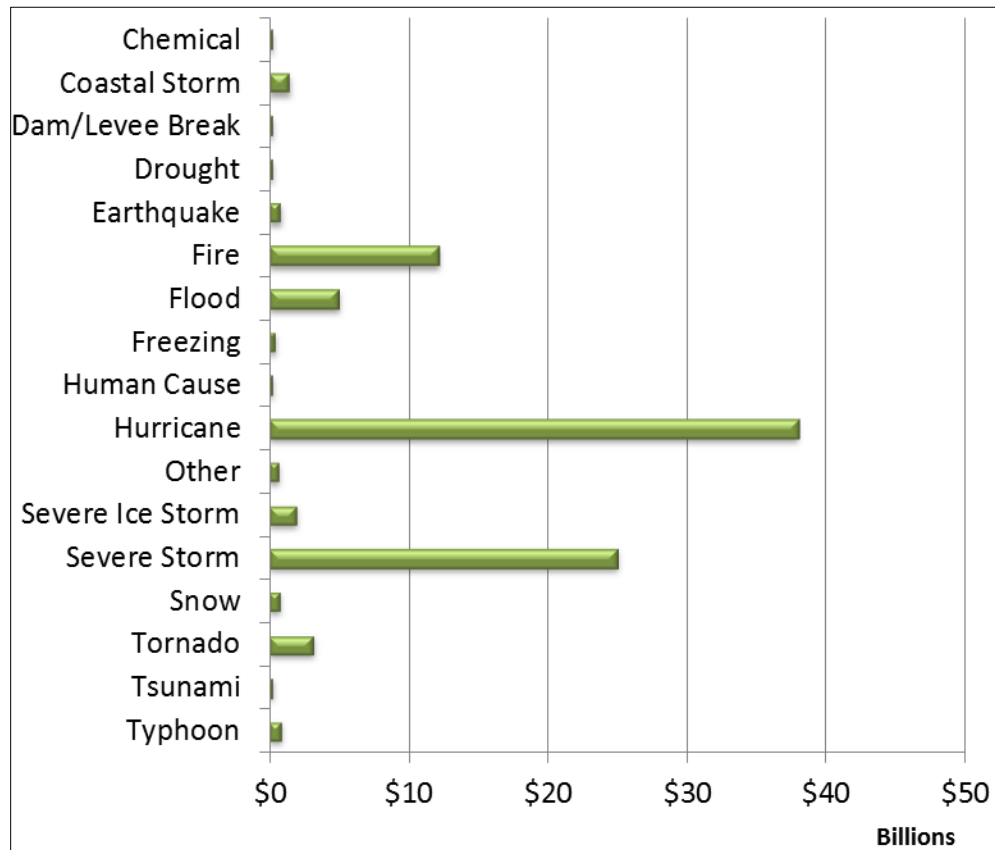


Adapted from Federal Emergency Management Agency, *Disaster Financial Status Report—April 2015 Reporting Cycle* (Washington, DC: Federal Emergency Management Agency, 2015).

Some might argue that the devastation caused by Hurricane Katrina in 2005 and subsequent unprecedented DRF spending could skew this result. To address this concern, this study removed the \$41.8 billion in DRF spending specifically coded for Hurricane Katrina.¹³⁵ Analysis revealed the same result; hurricanes are the disaster type that caused the most DRF spending, shown in Figure 9.

¹³⁵ Federal Emergency Management Agency, *Disaster Financial Status Report—April 2015 Reporting Cycle*.

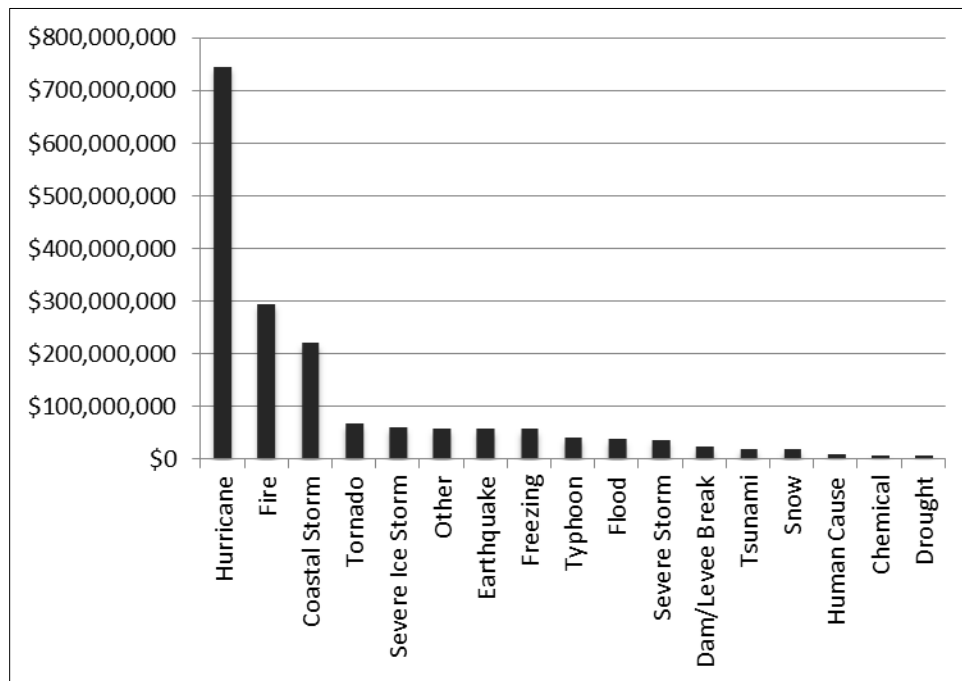
Figure 9. Disaster Relief Fund Spending by Disaster Type, Minus Hurricane Katrina Spending, FY1995–2014



Adapted from Federal Emergency Management Agency, *Disaster Financial Status Report—April 2015 Reporting Cycle* (Washington, DC: Federal Emergency Management Agency, 2015).

Average spending per hurricane declaration was more than \$700 million, as illustrated in Figure 10. Fire was the disaster type with the second highest average spending per event at just under \$300 million, followed by coastal storms just above \$200 million per disaster.

Figure 10. Average Federal Spending by Disaster Type, FY1995–2014



Adapted from Federal Emergency Management Agency, *Disaster Financial Status Report—April 2015 Reporting Cycle* (Washington, DC: Federal Emergency Management Agency, 2015).

Three disaster types accounted for 89.3% of all DRF spending over the past 20 years: hurricanes, severe storms, and fire, as presented in Table 1.

Table 1. Top Three Disaster Types for Disaster Relief Fund Spending, FY1995–2014

Disaster Type	Federal DRF Spending	Percent of DRF Spending
Hurricanes	\$79.7 billion	61.0%
Severe Storms	\$24.9 billion	19.1%
Fire	\$12 billion	9.2%
Totals	\$127.7 billion	89.3%

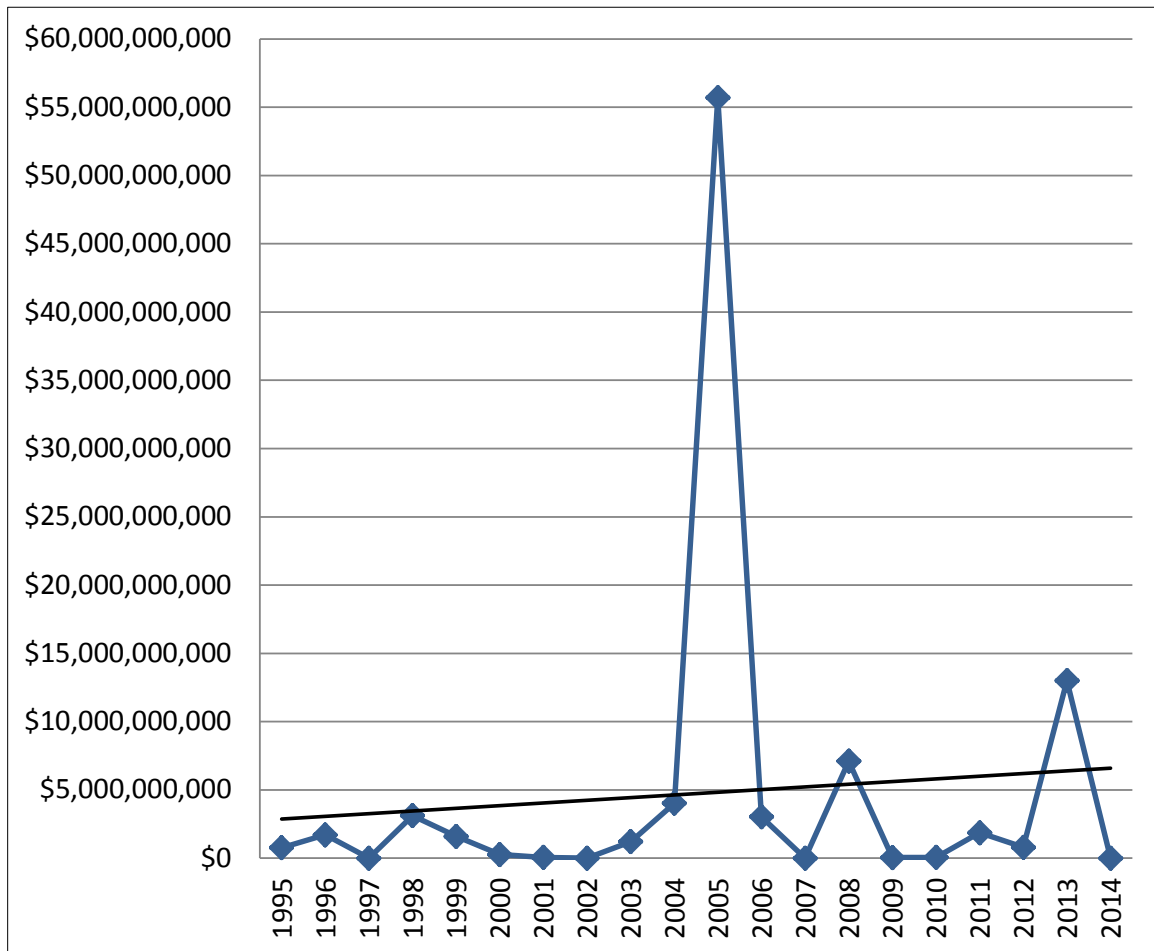
Adapted from Federal Emergency Management Agency, *Disaster Financial Status Report—April 2015 Reporting Cycle* (Washington, DC: Federal Emergency Management Agency, 2015).

1. Hurricanes

The federal government spent 61% of all DRF monies (\$79.7 billion) over the past 20 years on hurricanes. More than half (58%) of total hurricane spending was in FY2005 (\$46.9 billion), which had nine hurricane major disaster declarations. Hurricane Katrina and Hurricane Sandy accounted for \$59 billion in hurricane spending, representing close to three quarters of all hurricane spending over the last 20 years (74%). One-hundred-seven major disaster declarations for hurricanes were made over 20 years, averaging \$745 million each.

In FY2013, 14 hurricane major disaster declarations were made as a result of two storms. One declaration was for Hurricane Isaac, and 13 were for Hurricane Sandy. On average, spending for each of these declarations was under \$1 billion. However, spending for each declaration ranged from \$3 million to more than \$9 billion. Just shy of half of all hurricane spending (49%) was under the category of infrastructure. Analysis of hurricane spending demonstrated an upward trend, which is depicted by the rising horizontal line in Figure 11.

Figure 11. Disaster Relief Fund Hurricane Spending, FY1995–2014
(Adjusted to 2014 Dollars)



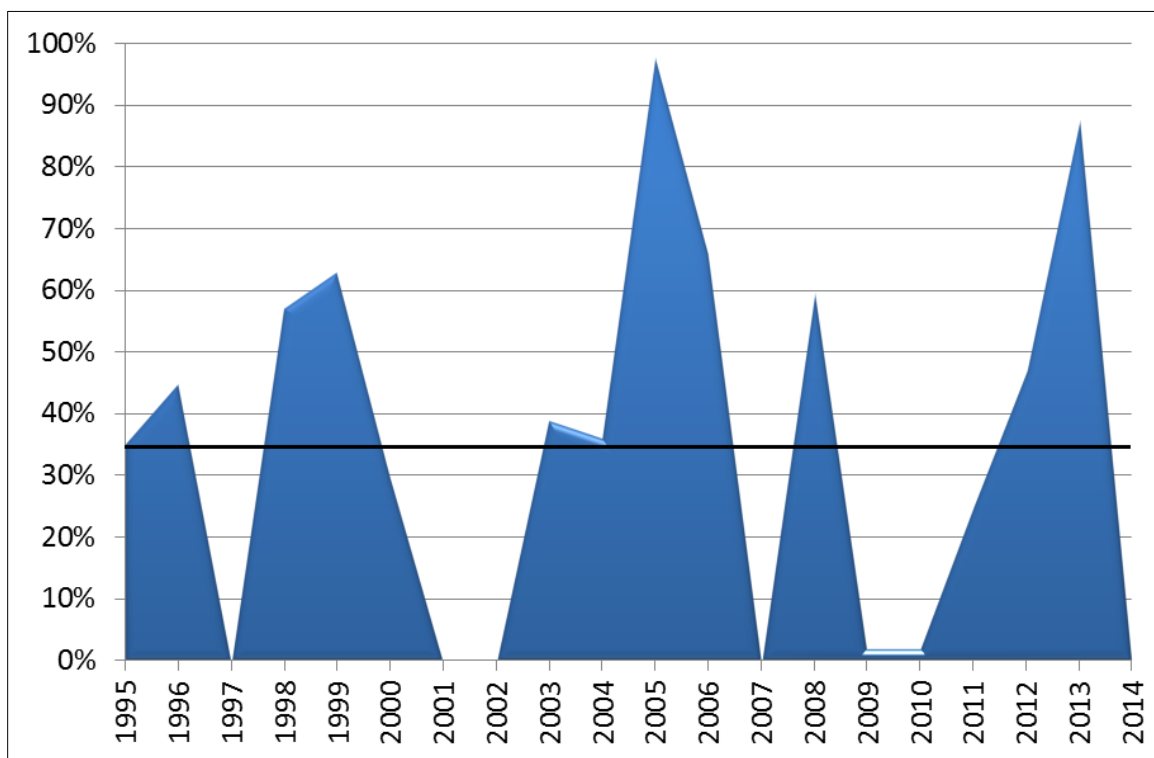
Adapted from Federal Emergency Management Agency, *Disaster Financial Status Report—April 2015 Reporting Cycle* (Washington, DC: Federal Emergency Management Agency, 2015); Robert C. Sahr, *Consumer Price Index (CPI) Conversion Factors for Years 1774 to Estimated 2025 to Convert to Dollars of 2014* (Corvallis, OR: Oregon State University, 2015).

The five states with the most declarations in 20 years were Florida, Louisiana, Alabama, North Carolina, and Virginia. Twenty-four states, as well as the U.S. Virgin Islands, Puerto Rico, and the District of Columbia, received hurricane declarations. The states that received the highest amount of federal disaster relief for hurricanes included Louisiana (\$35.3 billion), New York (\$10.6 billion), Mississippi (\$10.2 billion), Florida (\$6.8 billion), and Texas (\$6.5 billion). The states that received the highest amount of federal assistance per declaration include Louisiana (average of \$4.4 billion per

declaration), New York (average of \$3.5 billion), Mississippi (average of \$1.7 billion), and New Jersey and Texas (each with an average of \$1.1 billion per declaration).

The share of DRF spending used for hurricanes differed greatly each year; however, the trend of percentage of funds used for these types of disasters remained flat, as shown in Figure 12. The government on average spent 35% of DRF annually funds on hurricanes.

Figure 12. Hurricane Spending as a Percentage of Total Disaster Relief Fund Spending, FY1995–2014 (Adjusted to 2014 Dollars)

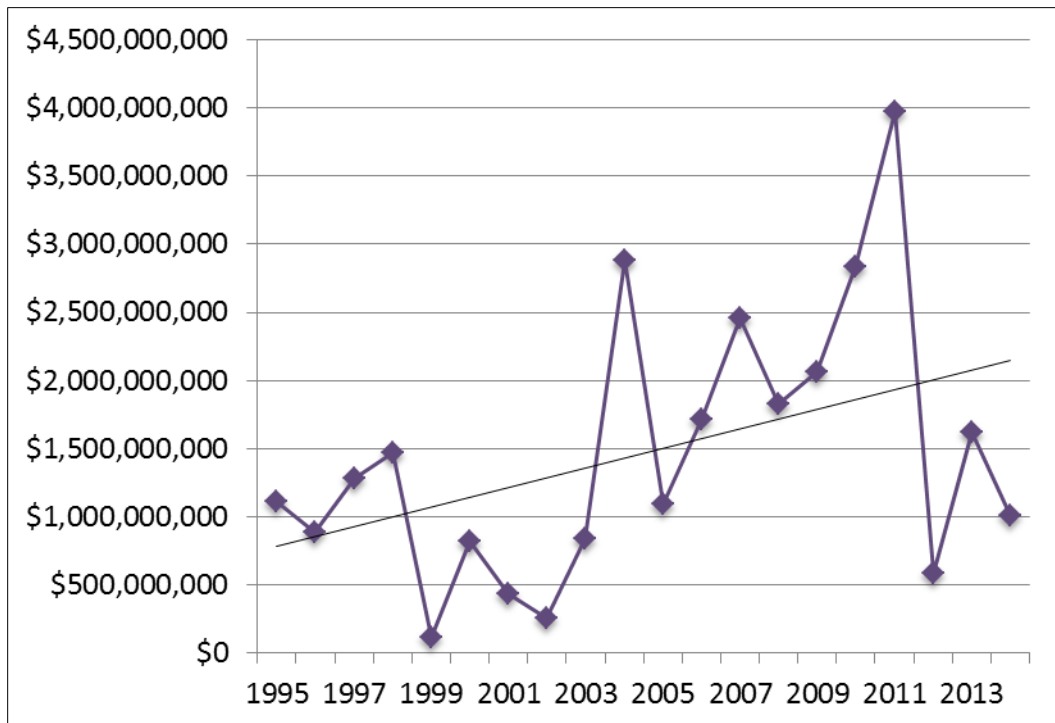


Adapted from Federal Emergency Management Agency, *Disaster Financial Status Report—April 2015 Reporting Cycle* (Washington, DC: Federal Emergency Management Agency, 2015); Robert C. Sahr, *Consumer Price Index (CPI) Conversion Factors for Years 1774 to Estimated 2025 to Convert to Dollars of 2014* (Corvallis, OR: Oregon State University, 2015).

2. Severe Storms

The second highest disaster type for federal spending was severe storms at \$24.9 billion, or 19.1% of total DRF spending. Spending for this disaster type demonstrated an upward trend, as shown in Figure 13.

Figure 13. Disaster Relief Fund Severe Storm Spending, FY1995–2014
(Adjusted to 2014 Dollars)



Adapted from Federal Emergency Management Agency, *Disaster Financial Status Report—April 2015 Reporting Cycle* (Washington, DC: Federal Emergency Management Agency, 2015); Robert C. Sahr, *Consumer Price Index (CPI) Conversion Factors for Years 1774 to Estimated 2025 to Convert to Dollars of 2014* (Corvallis, OR: Oregon State University, 2015).

In this category, 705 major disaster declarations were made over 20 years; yet, no specific description outlines what qualifies as a severe storm.¹³⁶ FEMA uses 27 lettered codes to classify a disaster. However, inherent problems exist with this system.¹³⁷ The

¹³⁶ Government Accountability Office, *Disaster Cost Estimates: FEMA Can Improve Its Learning from Past Experience and Management of Disaster-Related Resources* (GAO-08-301) (Washington, DC: Government Accountability Office, 2008), 17.

¹³⁷ *Ibid.*

GAO has documented that coding in the DSFR does not always match the description of the disaster.¹³⁸ Other documented problems with the disaster classification system are that each disaster can only have one code, and events within the same code had conflicting descriptions.¹³⁹ According to the brief description provided in the DSFR, a severe storm event ranged from heavy rainfall to a hurricane to a blizzard. Descriptions in the severe storm category encompassed snow and cold events including blizzards, severe winter storms, snow, record and near-record snow, snowstorm, extreme snowfall, ice jams, heavy snow, ice, freezing rain, freezing temperatures, and snow melt.¹⁴⁰ Additional severe storm descriptions included heavy rain, excessive rainfall, tropical storms, hurricanes, flooding, coastal flooding, wind, straight line winds, high winds, tornadoes, landslides, mudslides, debris and mud flow, soil saturation, and mud and rock slides.¹⁴¹

The government spent \$1.2 billion annually on average for severe storms. An average of 35 declarations was issued per year in this category, averaging \$35 million in federal spending per storm. These types of storms were most prevalent in the states of Kentucky, Nebraska, Oklahoma, Tennessee, and New York, which all received at least 25 severe storm major disaster declarations. However, the states receiving the most in federal aid for severe storms were Florida (\$2.3 billion), California (\$1.7 billion), New York (\$1.7 billion), Illinois (\$1.4 billion), and Missouri (\$1.2 billion). All 50 states and American Samoa, the District of Columbia, Guam, Puerto Rico, and the U.S. Virgin Islands received a severe storm major disaster declaration and associated federal funding in the last 20 years.

Spending for severe storms demonstrated an upward trend, increasing from \$7.3 billion in the first 10 years to \$17.7 billion in the second 10 years. The average amount spent annually more than doubled from one decade to the next, from \$725 million to \$1.8 billion. On average, DRF spending on severe storms was 21% annually, and ranged from

¹³⁸ Government Accountability Office, *Disaster Cost Estimates: FEMA Can Improve Its Learning from Past Experience and Management of Disaster-Related Resources*, 17.

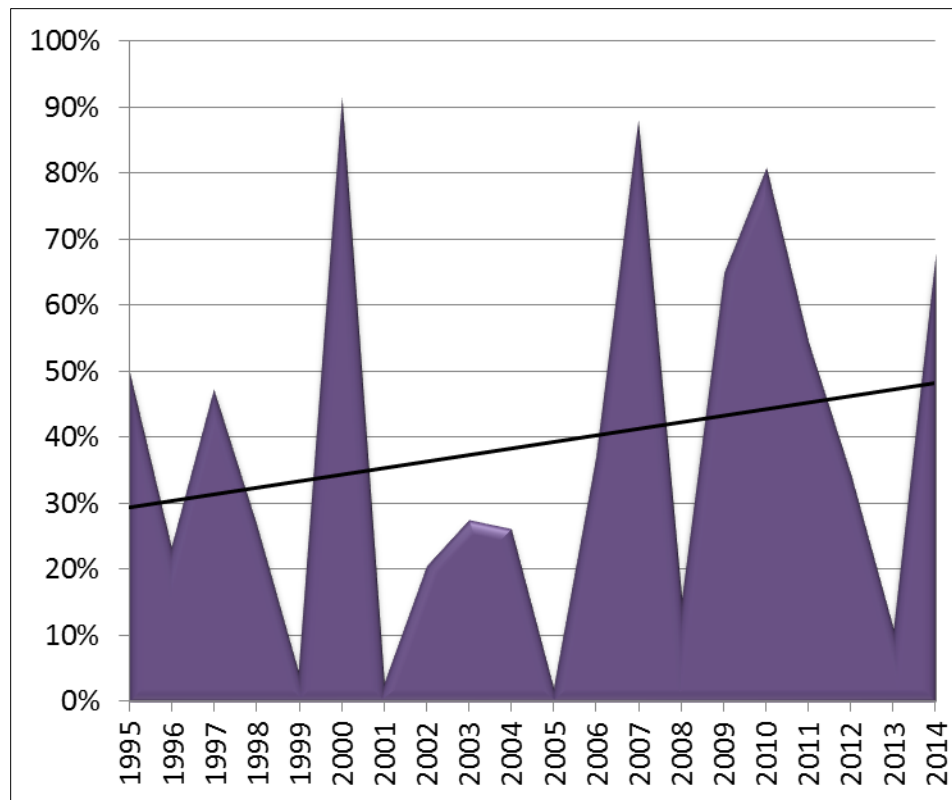
¹³⁹ Ibid.

¹⁴⁰ Federal Emergency Management Agency, *Disaster Finance Status Report—Obligations Summary Report* (Washington, DC: Federal Emergency Management Agency, 2015).

¹⁴¹ Ibid.

1%–59%. Severe storm spending as a share of all DRF spending also demonstrated an upward trend, depicted in Figure 14.

Figure 14. Severe Storm Spending as a Percentage of Total Disaster Relief Fund Spending, FY1995–2014 (Adjusted to 2014 Dollars)

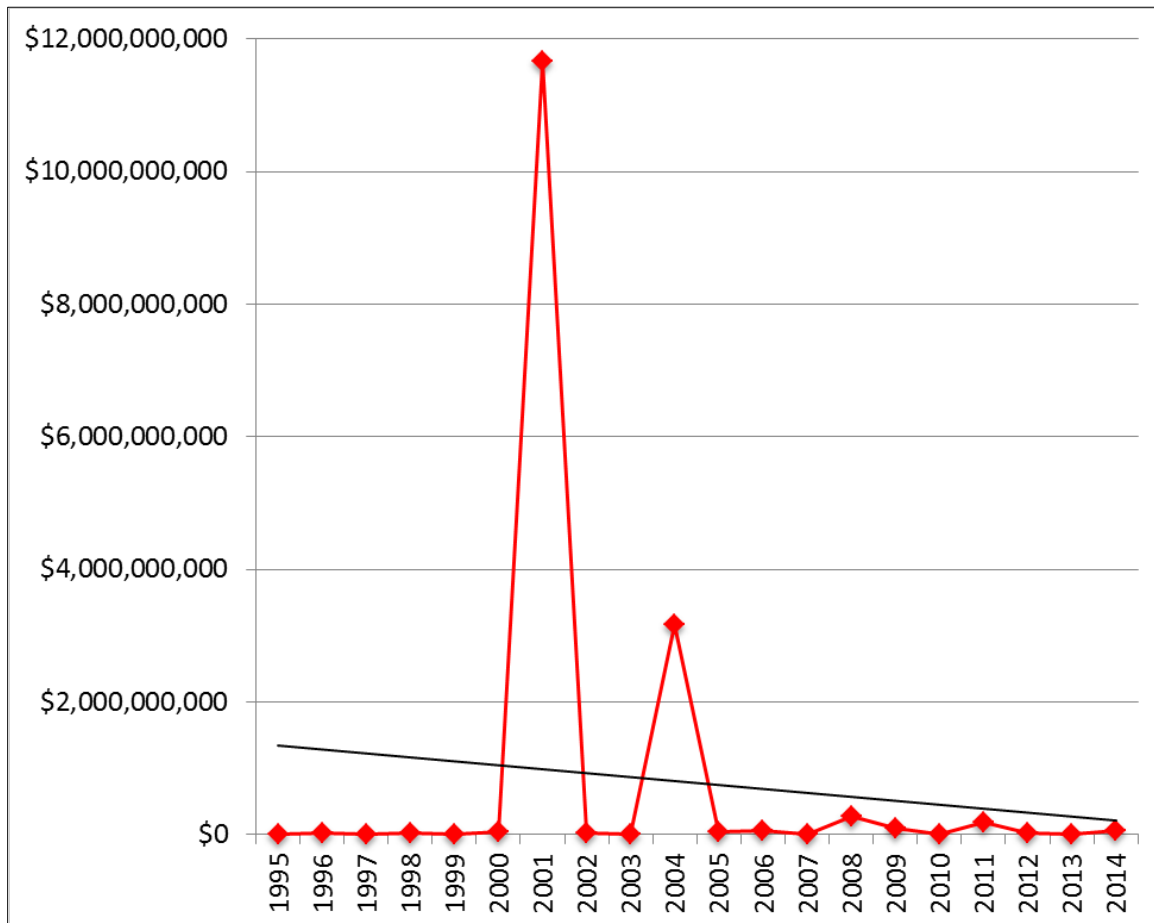


Adapted from Federal Emergency Management Agency, *Disaster Financial Status Report—April 2015 Reporting Cycle* (Washington, DC: Federal Emergency Management Agency, 2015); Robert C. Sahr, *Consumer Price Index (CPI) Conversion Factors for Years 1774 to Estimated 2025 to Convert to Dollars of 2014* (Corvallis, OR: Oregon State University, 2015).

3. Fire

The type of disaster that triggered the third highest amount of federal spending over the past 20 years was fire at \$12 billion, or 9.2% of DRF spending. Overall spending for fire demonstrated a downward trend, as shown in Figure 15.

Figure 15. Disaster Relief Fund Fire Spending, FY1995–2014 (Adjusted to 2014 Dollars)



Adapted from Federal Emergency Management Agency, *Disaster Financial Status Report—April 2015 Reporting Cycle* (Washington, DC: Federal Emergency Management Agency, 2015); Robert C. Sahr, *Consumer Price Index (CPI) Conversion Factors for Years 1774 to Estimated 2025 to Convert to Dollars of 2014* (Corvallis, OR: Oregon State University, 2015).

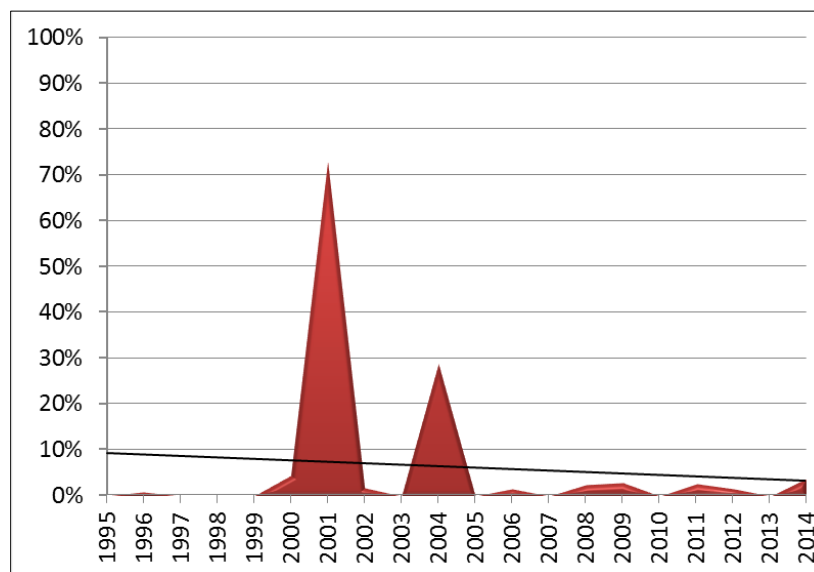
Fire declarations were issued in 15 of 20 years, for a total of 41 fire major disaster declarations. However, the federal government spent 72.5% (\$8.7 billion) of all spending for this type of disaster as a result of the terrorist attacks of September 11, 2001. The government spent the remaining funds on a variety of fires types in 24 states including wildland, inland, forest, extreme fire hazards, and wildfire threats.¹⁴² Even though some events were classified as fire, in 13 of 41 declarations (32%), their descriptions matched

¹⁴² Federal Emergency Management Agency, *Disaster Finance Status Report—Obligations Summary Report*.

other types of events including hurricane, tropical depression, severe storm, flooding, landslides, rain, and winds.¹⁴³

In all years except 2001 and 2004, less than \$300 million was spent in this category. The year 2001 is the only year listing “fire and explosion” in this fire type category. Of note, the 1995 bombing of the Alfred P. Murrah federal building in Oklahoma is recorded in the “human cause” type category. Understanding this distinction, the average spent annually on natural disaster fire major disaster declarations was less than \$85 million. Disregarding September 11, 2001, spending in this category, the states that received the most federal fire aid from the DRF were Florida, Alabama, California, Texas, and Pennsylvania for a total of \$2.9 billion. Spending on fires as a percentage of total DRF spending demonstrated a decreasing trend over the 20-year period, as depicted in Figure 16.

Figure 16. Fire Spending as a Percentage of Total Disaster Relief Fund Spending, FY1995–2014 (Adjusted to 2014 Dollars)



Adapted from Federal Emergency Management Agency, *Disaster Financial Status Report—April 2015 Reporting Cycle* (Washington, DC: Federal Emergency Management Agency, 2015); Robert C. Sahr, *Consumer Price Index (CPI) Conversion Factors for Years 1774 to Estimated 2025 to Convert to Dollars of 2014* (Corvallis, OR: Oregon State University, 2015).

¹⁴³ Federal Emergency Management Agency, *Disaster Finance Status Report—Obligations Summary Report*.

The government averaged 6% of total DRF spending on fires annually, with a high of 73% in 2001 as a result of the terrorist attacks of that year. In 2004, DRF fire spending represented 29% of all DRF spending; yet, the federal government spent the majority of that spending for Hurricane Ivan or tropical storm Ivan.

C. SPENDING BY FIVE DISASTER RELIEF FUND CATEGORIES

Spending under the DRF is structured into five categories: infrastructure, human services, post-disaster mitigation, mission assignments, and FEMA administrative costs. Analysis of the \$130.6 billion spent through the DRF for FY1995–2014 revealed that the government spent the vast majority (74.6%) on infrastructure and human services. Federal spending on public infrastructure represented the highest spending category, as demonstrated in Table 2.

Table 2. Spending Totals in the Five Primary Disaster Relief Fund Categories, FY1995–2014

DRF Category	20-Year Total DRF Spending	Percent of DRF Spending
Infrastructure	\$65.3 billion	50.0%
Human Services	\$32.1 billion	24.6%
FEMA Administrative Costs	\$18.0 billion	13.8%
Post-Disaster Mitigation	\$8.5 billion	6.5%
Mission Assignments	\$6.7 billion	5.1%
Totals	\$130.6 billion	100%

Adapted from Federal Emergency Management Agency, *Disaster Financial Status Report—April 2015 Reporting Cycle* (Washington, DC: Federal Emergency Management Agency, 2015).

1. Infrastructure

The restoration of public infrastructure as a result of a disaster is authorized by the Stafford Act, and is codified by a number of policies and regulations in the Code of

Federal Regulations.¹⁴⁴ Repairing this infrastructure falls under the FEMA public assistance (PA) program, which provides federal grants for “debris removal, emergency protective measures, and permanent restoration of infrastructure.”¹⁴⁵ PA projects are determined to be either emergency work, or permanent work. Emergency work is “that which must be performed to reduce or eliminate an immediate threat to life, protect public health and safety, and to protect improved property that is threatened in a significant way as a result of the disaster.”¹⁴⁶ Permanent work for infrastructure is “required to restore a damaged facility, through repair or restoration, to its pre-disaster design, function, and capacity in accordance with applicable codes or standards.”¹⁴⁷ PA projects are determined by the grantee and approved by FEMA, under the following categories:

- Category A: Debris Removal
- Category B: Emergency Protective Measures
- Category C: Roads and Bridges
- Category D: Water Control Facilities
- Category E: Public Buildings and Contents
- Category F: Public Utilities
- Category G: Parks, Recreational, and Other Facilities¹⁴⁸

The federal government spent \$65.3 billion over 20 years on infrastructure, equaling half of DRF spending. On average, government infrastructure spending was 52% annually, ranging from 34–69%. Spending in the infrastructure category demonstrated an upward trend, as shown in Figure 17.

¹⁴⁴ Federal Emergency Management Agency, *Public Assistance Policy Digest* (Report no. FEMA 321) (Washington, DC: Federal Emergency Management Agency, 2008), 1.

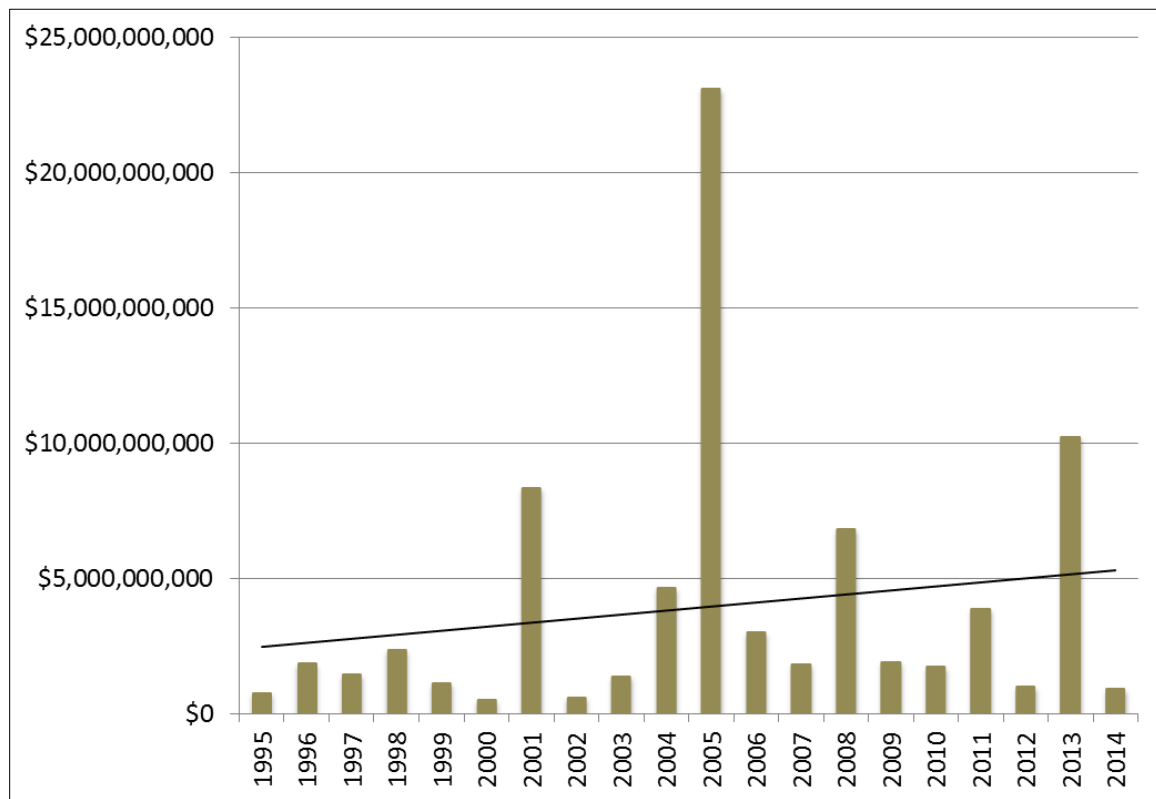
¹⁴⁵ Federal Emergency Management Agency, *FEMA Fact Sheet: Public Assistance* (Washington, DC: Federal Emergency Management Agency, 2015), 1.

¹⁴⁶ Federal Emergency Management Agency, *Public Assistance Guide* (Washington, DC: Federal Emergency Management Agency, 2007), 66.

¹⁴⁷ *Ibid.*, 79.

¹⁴⁸ Federal Emergency Management Agency, *FEMA Fact Sheet: Public Assistance*, 1.

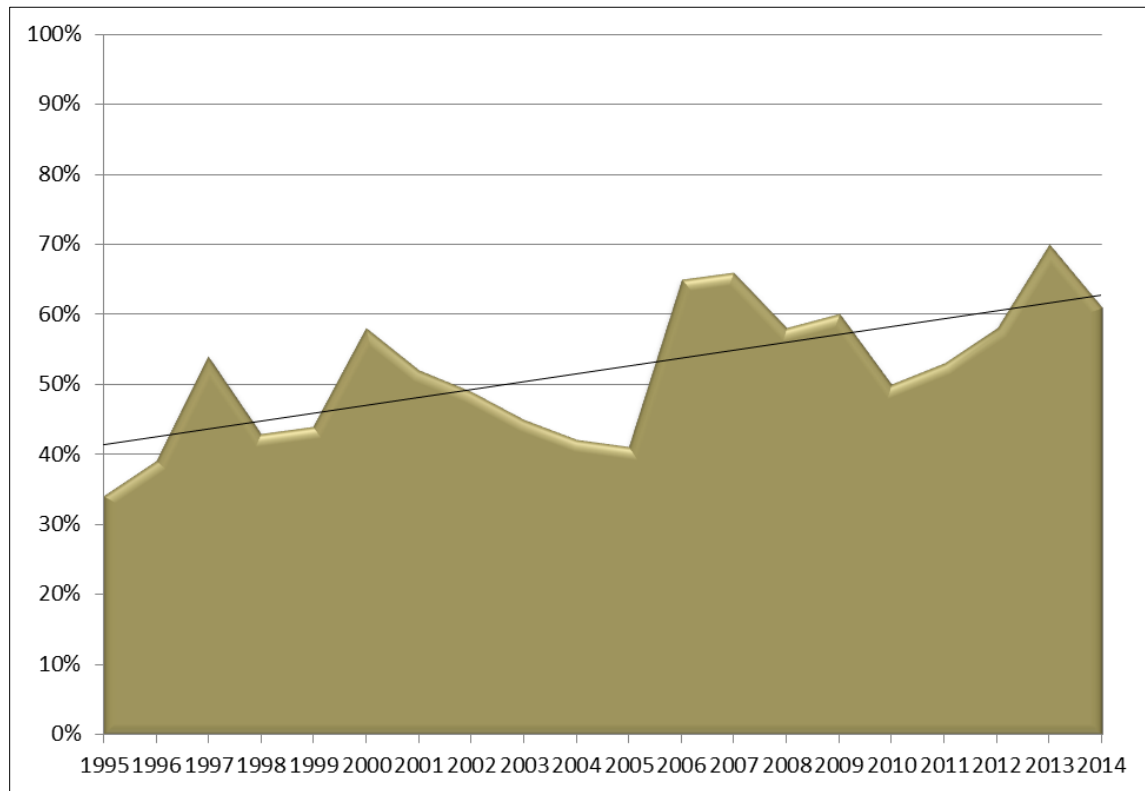
Figure 17. Disaster Relief Fund Infrastructure Spending, FY1995–2014
(Adjusted to 2014 Dollars)



Adapted from Federal Emergency Management Agency, *Disaster Financial Status Report—April 2015 Reporting Cycle* (Washington, DC: Federal Emergency Management Agency, 2015); Robert C. Sahr, *Consumer Price Index (CPI) Conversion Factors for Years 1774 to Estimated 2025 to Convert to Dollars of 2014* (Corvallis, OR: Oregon State University, 2015).

Infrastructure spending as a percentage of DRF spending also showed an upward trend, with a 27% increase from FY1995–2014, as illustrated in Figure 18.

Figure 18. Infrastructure Spending as a Percentage of Total Disaster Relief Fund Spending, FY1995–2014 (Adjusted to 2014 Dollars)



Adapted from Federal Emergency Management Agency, *Disaster Financial Status Report—April 2015 Reporting Cycle* (Washington, DC: Federal Emergency Management Agency, 2015); Robert C. Sahr, *Consumer Price Index (CPI) Conversion Factors for Years 1774 to Estimated 2025 to Convert to Dollars of 2014* (Corvallis, OR: Oregon State University, 2015).

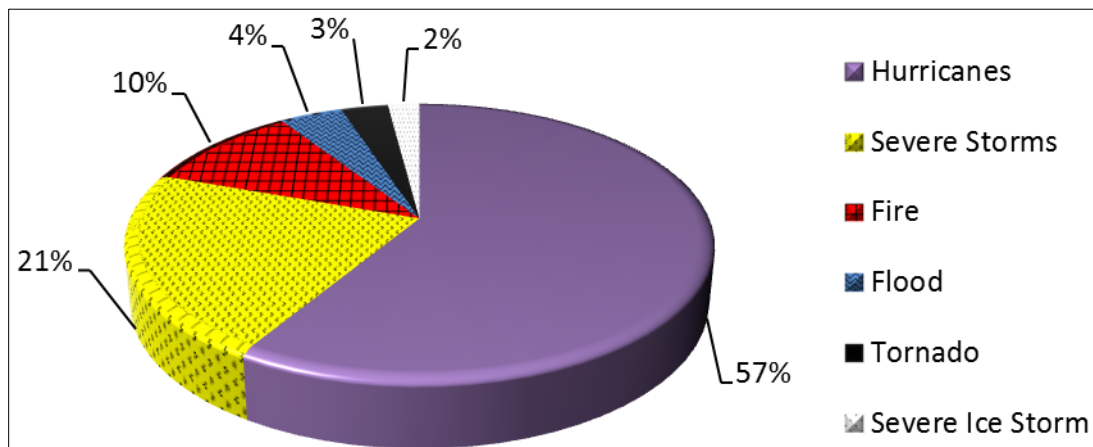
In the DSFR, Category A (Debris Removal) and B (Emergency Protective Measures) spending are combined when tracking the amount of federal cost share. The cost share for infrastructure reflected the 75% federal cost responsibility authorized in the Stafford Act, in most cases, 93% of the time. The government provided PA at a different level in 69 instances, or 6% of the time. In each case, PA was offered at a federal cost share of either 90% or 100%. Hurricanes and severe storms together accounted for more than half of these adjusted cost shares.

The highest single state expenditure by the federal government under the infrastructure category was \$13.3 billion in 2005 for Louisiana for Hurricane Katrina. Second was \$7.3 billion for New York for Hurricane Sandy in 2013, and third was

\$4.7 billion under the disaster type of “fires and explosions” for New York; in other words, September 11, 2001. Four states were given major disaster declarations for Hurricane Katrina: Alabama, Florida, Louisiana, and Mississippi. The total of all infrastructure expenditures by the federal government under the four declarations for Hurricane Katrina was \$17 billion.

On average, the federal government spent \$3.3 billion in each of the last 20 years restoring infrastructure, conducting debris removal, and implementing emergency protective measures as a result of a major declared disaster. Research indicated that infrastructure spending is primarily expended for hurricanes, as illustrated in Figure 19.

Figure 19. Infrastructure Spending by Disaster Type, FY1995–2014



Adapted from Federal Emergency Management Agency, *Disaster Financial Status Report—April 2015 Reporting Cycle* (Washington, DC: Federal Emergency Management Agency, 2015).

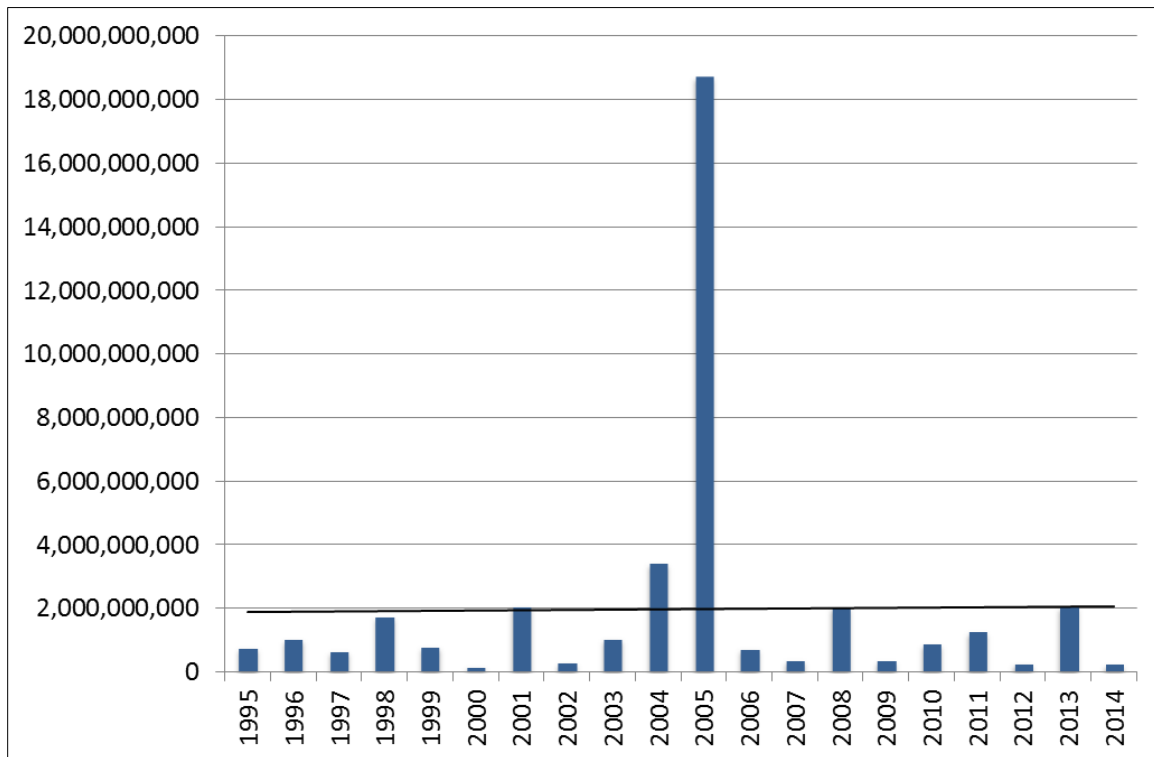
2. Human Services

Section 408 of the Stafford Act authorizes the president to provide what is characterized in FEMA reports as human services. These services include assistance to individuals in the form of temporary housing, or repair or replacement; and financial assistance for housing, medical care, child care, funeral expenses, and transportation.¹⁴⁹

¹⁴⁹ *Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), and Related Authorities*, Section 5174, 5456.

Section (h) limits the amount an individual or household can receive at \$25,000.¹⁵⁰ The DFSR also lists inspection services, crisis counseling, and legal services under the human services category. Human services accounted for 24.6% of DRF spending, or \$32.1 billion, and demonstrated a slight upward trend, as depicted in Figure 20.

Figure 20. Disaster Relief Fund Human Services Spending, FY1995–2014
(Adjusted to 2014 Dollars)



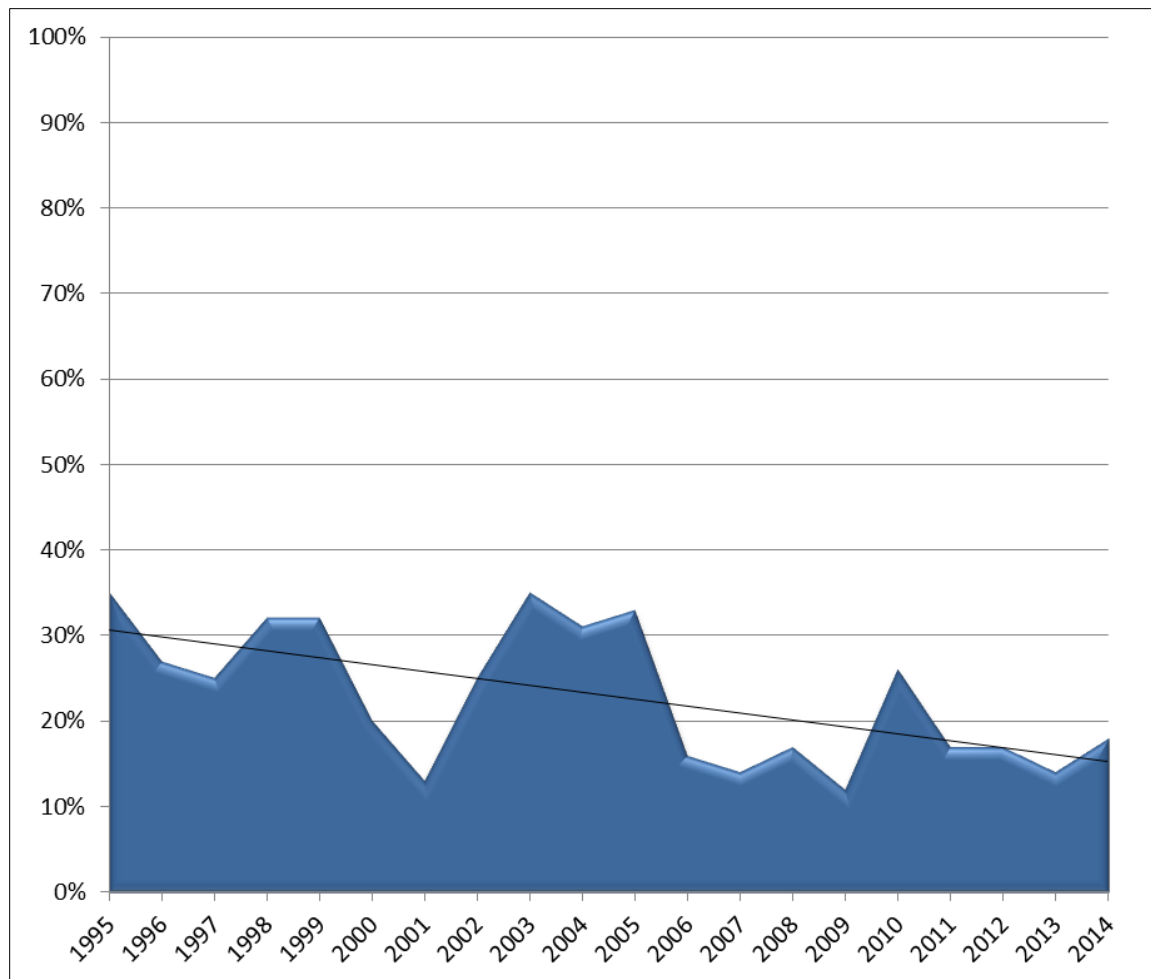
Adapted from Federal Emergency Management Agency, *Disaster Financial Status Report—April 2015 Reporting Cycle* (Washington, DC: Federal Emergency Management Agency, 2015); Robert C. Sahr, *Consumer Price Index (CPI) Conversion Factors for Years 1774 to Estimated 2025 to Convert to Dollars of 2014* (Corvallis, OR: Oregon State University, 2015).

The year with the single largest output in this category was 2005, when the federal government spent \$15.5 billion on human services. The year 2004 was the only other year with more than \$2 billion human services spending, at \$2.7 billion. The average amount spent per year for human services was \$1.6 billion. While annual

¹⁵⁰ *Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), and Related Authorities*, Section 5174 (h), 5458.

spending trended up slightly, overall spending in this category as a percentage of DRF spending trended down 12%, as illustrated in Figure 21.

Figure 21. Human Services Spending as a Percentage of Total Disaster Relief Fund Spending, FY1995–2014

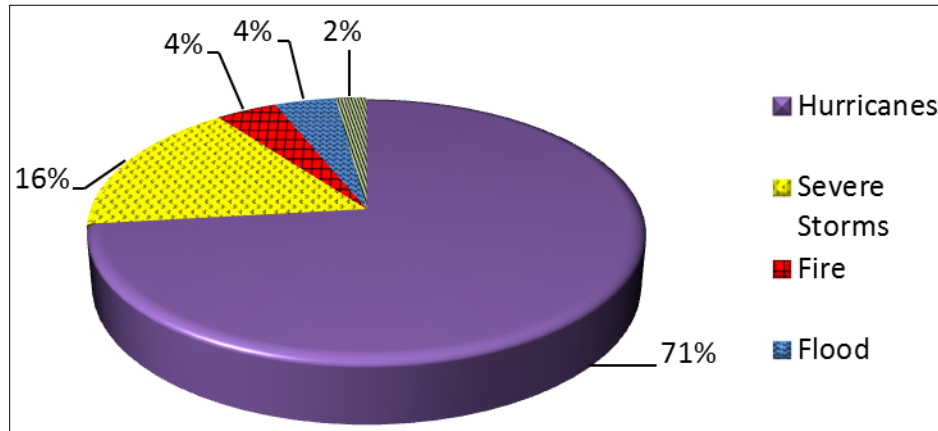


Adapted from Federal Emergency Management Agency, *Disaster Financial Status Report—April 2015 Reporting Cycle* (Washington, DC: Federal Emergency Management Agency, 2015).

The human services category of spending consists of the following sub-categories: individual and family grants, temporary housing, housing resources (mobile homes), disaster unemployment assistance, inspection services, crisis counseling, and legal services. In 19 out of 20 years, temporary housing was the primary human services spending sub-category. In every year, the most spending was for a type of housing

assistance. Hurricanes account for more than half of human services spending, as illustrated in Figure 22. If these statistics are combined, it can be said that over the past 20 years, the federal government has spent the most for housing assistance as a result of a hurricane or severe storm.

Figure 22. Human Services Spending by Disaster Type, FY1995–2014



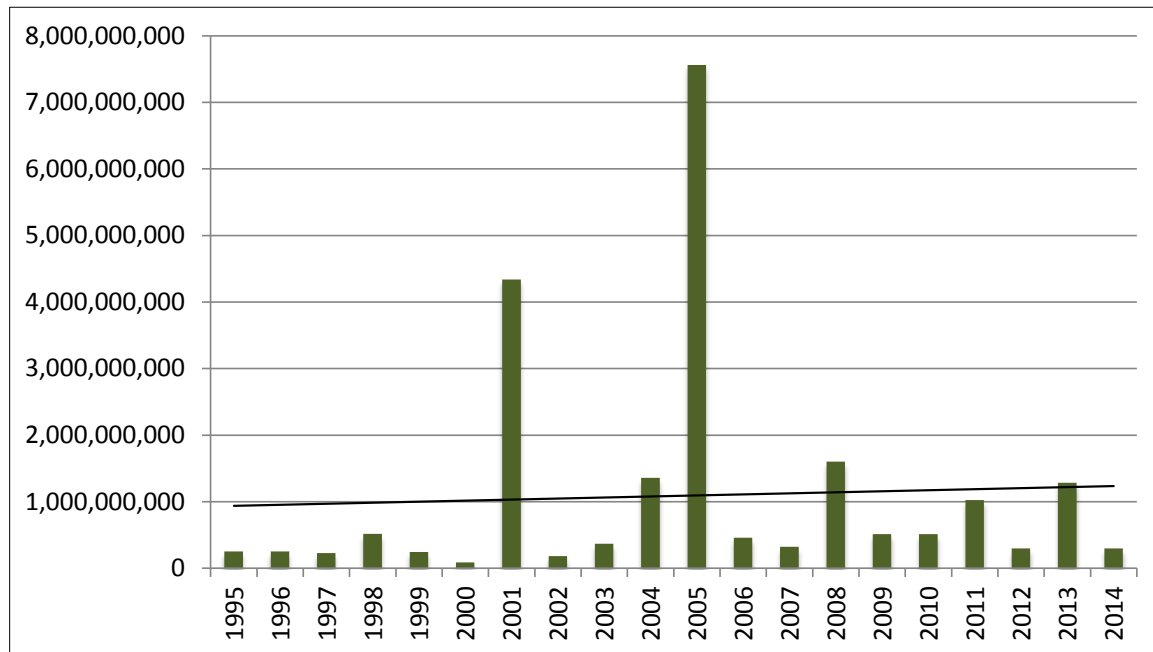
Adapted from Federal Emergency Management Agency, *Disaster Financial Status Report—April 2015 Reporting Cycle* (Washington, DC: Federal Emergency Management Agency, 2015).

3. FEMA Administrative Costs

FEMA administrative costs can “include the salary and travel costs for the disaster workforce, rent and security expenses associated with field operation locations, and supplies and information technology for field operation staff.”¹⁵¹ Annual spending in this category demonstrated an upward trend, depicted in Figure 23, and ranged from a high of \$6.2 billion in 2005 to \$66.3 million in 2000. Average annual spending for administrative costs was under \$1 billion, and in only five of 20 years, or 25% of the time, did annual administrative spending surpass that amount. On average, the government spent 13% a year for FEMA administrative costs. The year with the highest amount spent for this category was 2001, at 27.1%, and the year with the lowest amount of spending was 1996 at 6.6%.

¹⁵¹ Federal Emergency Management Agency: *Opportunities Exist to Strengthen Oversight of Administrative Costs for Major Disasters*, 8.

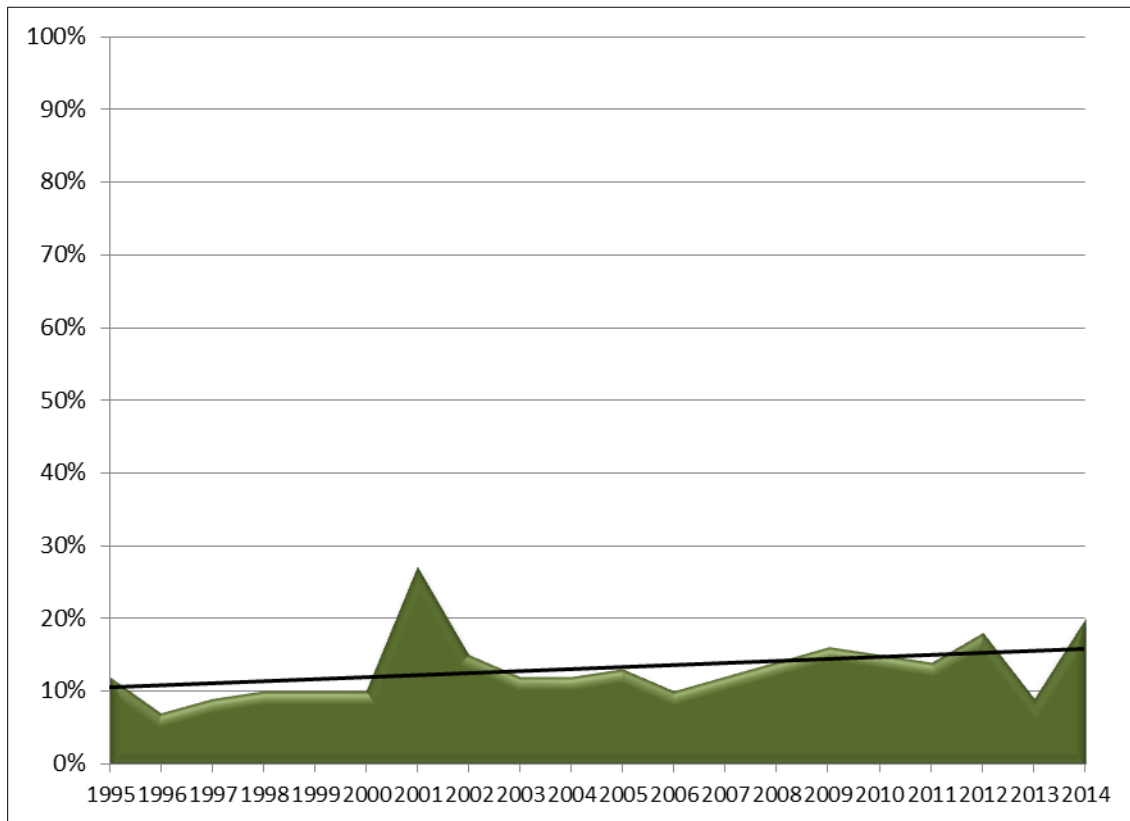
Figure 23. Disaster Relief Fund FEMA Administrative Costs Spending, FY1995–2014 (Adjusted to 2014 Dollars)



Adapted from Federal Emergency Management Agency, *Disaster Financial Status Report—April 2015 Reporting Cycle* (Washington, DC: Federal Emergency Management Agency, 2015); Robert C. Sahr, *Consumer Price Index (CPI) Conversion Factors for Years 1774 to Estimated 2025 to Convert to Dollars of 2014* (Corvallis, OR: Oregon State University, 2015).

Overall, the percentage of administrative spending continued to rise most years. Administrative costs represented 13.8% of DRF spending, for a total of \$18 billion. Spending in this category demonstrated an upward trend as a percentage of overall DRF spending, as shown in Figure 24.

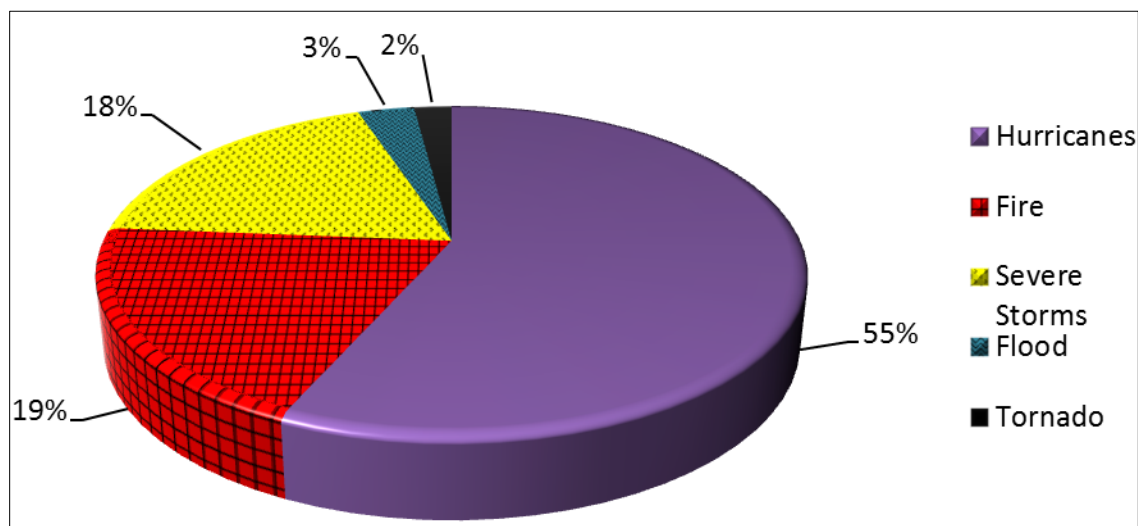
Figure 24. FEMA Administrative Costs Spending as a Percentage of Total Disaster Relief Fund Spending, FY1995–2014



Adapted from Federal Emergency Management Agency, *Disaster Financial Status Report—April 2015 Reporting Cycle* (Washington, DC: Federal Emergency Management Agency, 2015).

The highest FEMA administrative cost expenditures were for hurricanes (55%), fire (19%), and severe storms (18%). FEMA spent more than half of all administrative costs for hurricanes, as illustrated in Figure 25.

Figure 25. FEMA Administrative Costs Spending by Disaster Type, FY1995–2014



Adapted from Federal Emergency Management Agency, *Disaster Financial Status Report—April 2015 Reporting Cycle* (Washington, DC: Federal Emergency Management Agency, 2015).

4. Mitigation

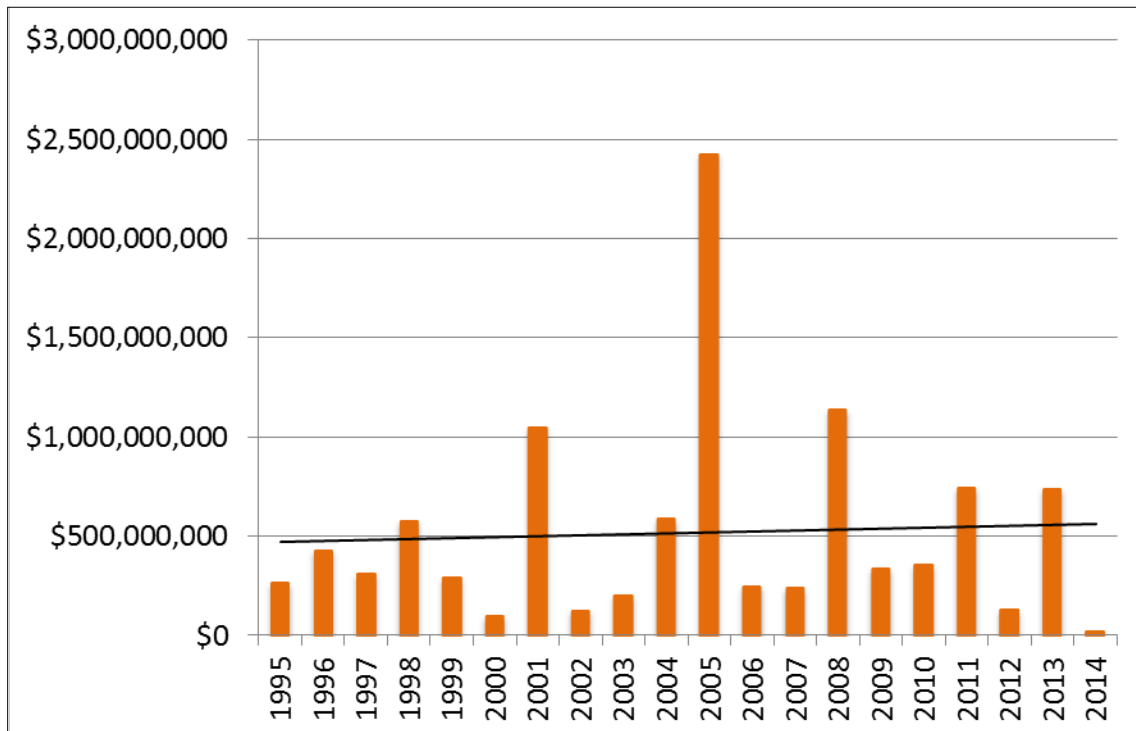
Section 404 of the Stafford Act provides the authority to conduct mitigation after a disaster event.¹⁵² Grants and technical assistance are the two types of mitigation assistance available as a result of a major disaster declaration. The federal government provides mitigation grants through FEMA’s Hazard Mitigation Grant Program (HMPG) to reduce or eliminate the potential impact of a subsequent disaster. The HMPG “assists in implementing long-term hazard mitigation measures following a Presidential major disaster declaration,” and is about 15% of the total amount of federal assistance provided to a state.¹⁵³

The federal government spent \$8.5 billion over the past 20 years on mitigation assistance after a disaster. An upward trend in mitigation spending was demonstrated, as depicted in Figure 26. In most years, less than \$800 million was spent annually.

¹⁵² Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), and Related Authorities, Section 406.

¹⁵³ “Hazard Mitigation Assistance,” last modified October 15, 2015, <https://www.fema.gov/hazard-mitigation-assistance>.

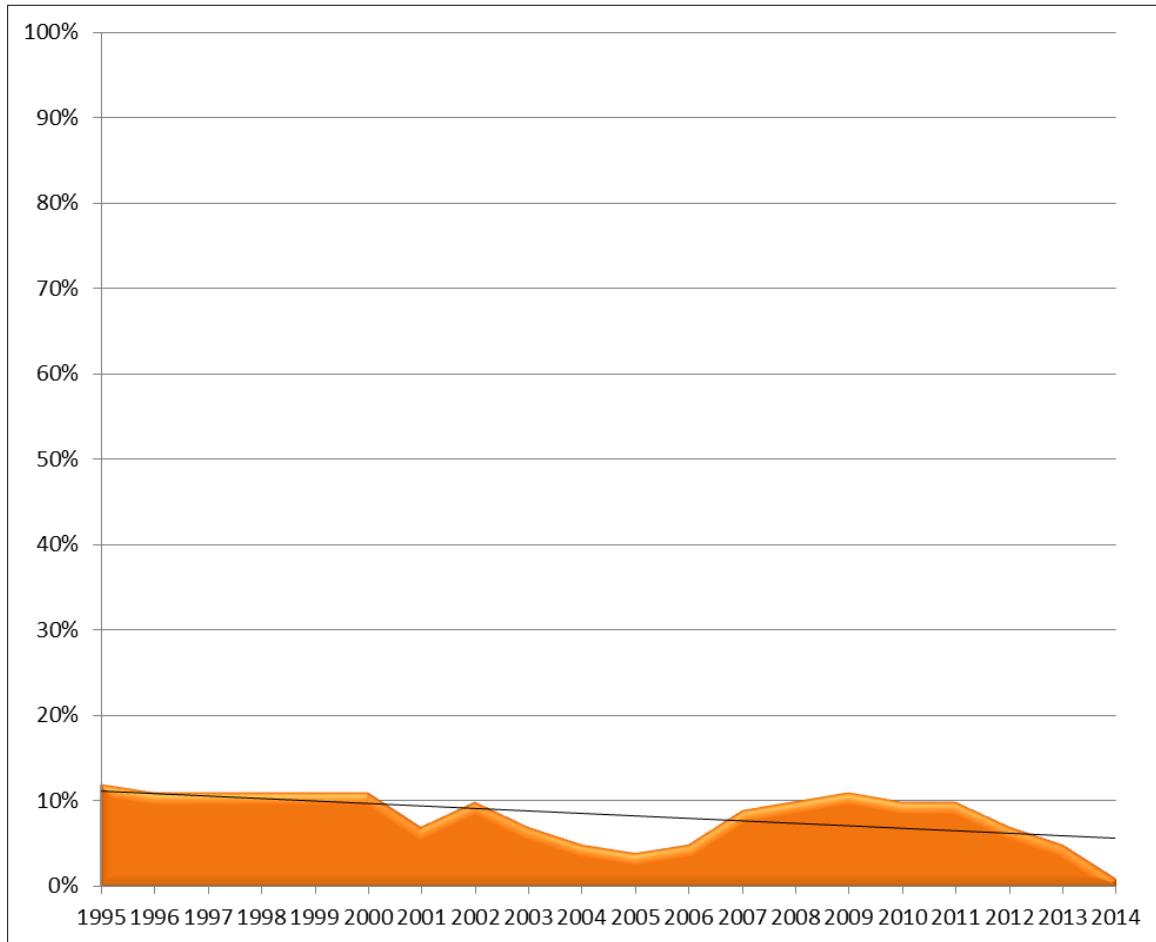
Figure 26. Disaster Relief Fund Post-disaster Mitigation Spending, FY1995–2014 (Adjusted to 2014 Dollars)



Adapted from Federal Emergency Management Agency, *Disaster Financial Status Report—April 2015 Reporting Cycle* (Washington, DC: Federal Emergency Management Agency, 2015); Robert C. Sahr, *Consumer Price Index (CPI) Conversion Factors for Years 1774 to Estimated 2025 to Convert to Dollars of 2014* (Corvallis, OR: Oregon State University, 2015).

Analysis showed that post-disaster mitigation represented 7% of all DRF spending, ranging between 1% and 12% for any one year. Mitigation spending demonstrated a downward trend as a share of all DRF spending, as depicted in Figure 27.

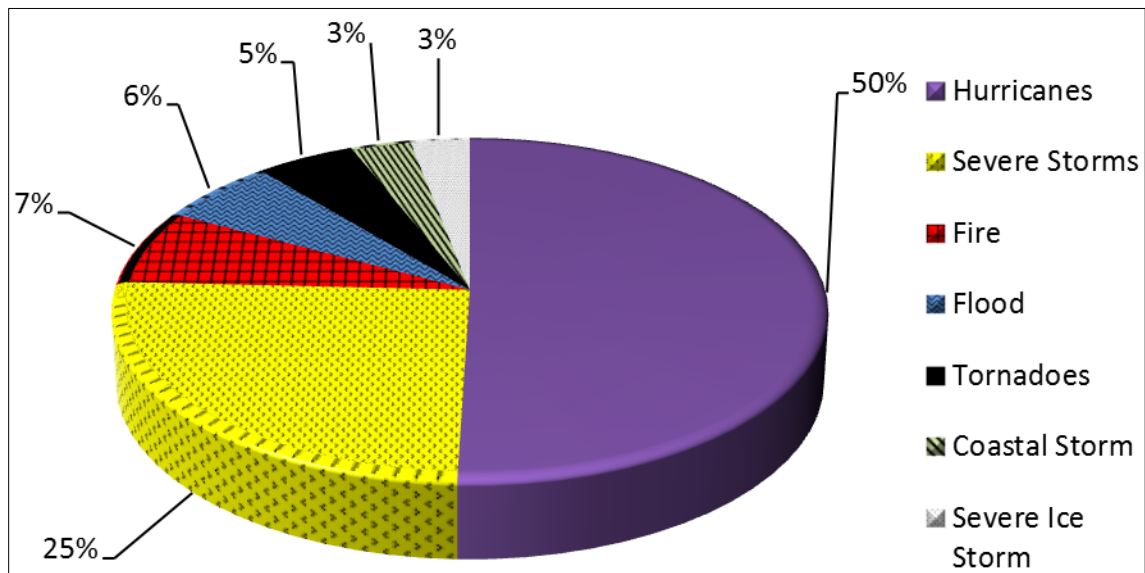
Figure 27. Post-disaster Mitigation Spending as a Percentage of Total Disaster Relief Fund Spending, FY1995–2014



Adapted from Federal Emergency Management Agency, *Disaster Financial Status Report—April 2015 Reporting Cycle* (Washington, DC: Federal Emergency Management Agency, 2015).

Sixty-one percent of mitigation spending over the 20-year period was for severe storms, as shown in Figure 28.

Figure 28. Post-disaster Mitigation Spending by Disaster Type, FY1995–2014



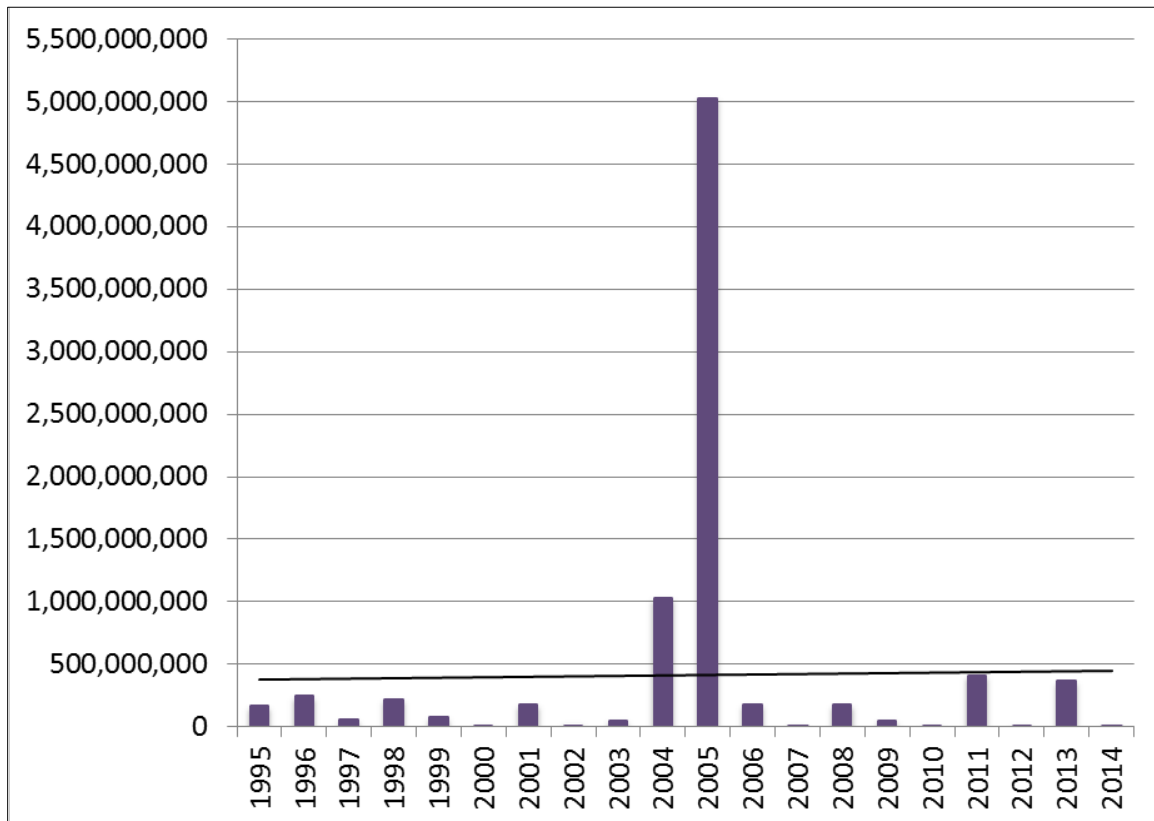
Adapted from Federal Emergency Management Agency, *Disaster Financial Status Report—April 2015 Reporting Cycle* (Washington, DC: Federal Emergency Management Agency, 2015).

5. Mission Assignments

FEMA issues mission assignments to designate activities and reimburse federal agencies for work performed in support of declared disasters.¹⁵⁴ Mission assignment spending demonstrated a slight upward trend over the 20-year period, as shown in Figure 29. Federal mission assignment spending accounted for only 5% of all DRF spending (\$6.7 billion).

¹⁵⁴ “2013–2014: Daily Mission Assignment Activity,” accessed February 5, 2016, <http://www.fema.gov/media-library/assets/documents/30824>.

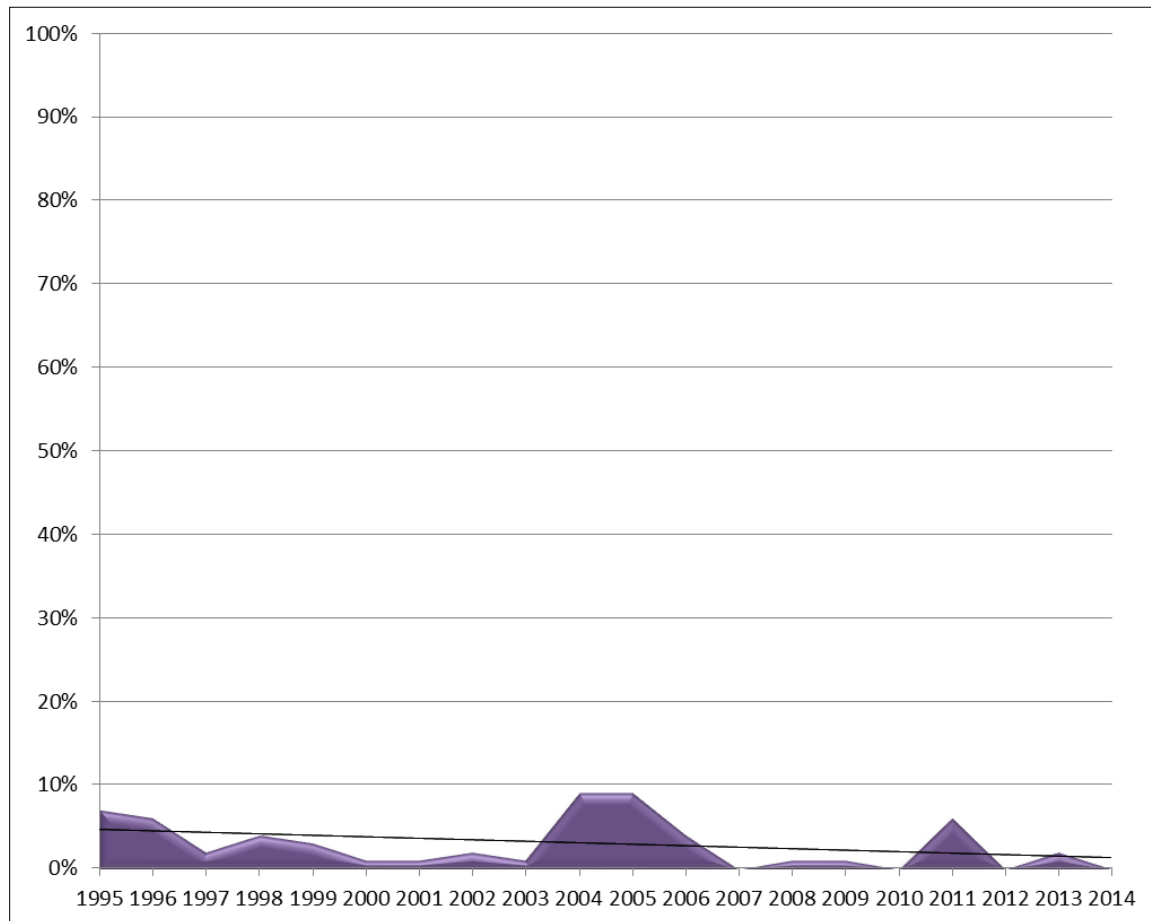
Figure 29. Disaster Relief Fund Mission Assignment Spending, FY1995–2014 (Adjusted to 2014 Dollars)



Adapted from Federal Emergency Management Agency, *Disaster Financial Status Report—April 2015 Reporting Cycle* (Washington, DC: Federal Emergency Management Agency, 2015); Robert C. Sahr, *Consumer Price Index (CPI) Conversion Factors for Years 1774 to Estimated 2025 to Convert to Dollars of 2014* (Corvallis, OR: Oregon State University, 2015).

Federal government spending for mission assignments surpassed the \$1 billion mark only once in the years considered in this study, in 2005 (\$4.1 billion). Other than 2005, FEMA spent the most in this category in 2004 (\$817.3 million). On average, \$336 million was spent annually on mission assignments. The government spent less than \$500 million annually in 18 of 20 years, or 90% of the time. Mission assignment spending as a share of the DRF as a whole demonstrated a downward trend, illustrated in Figure 30.

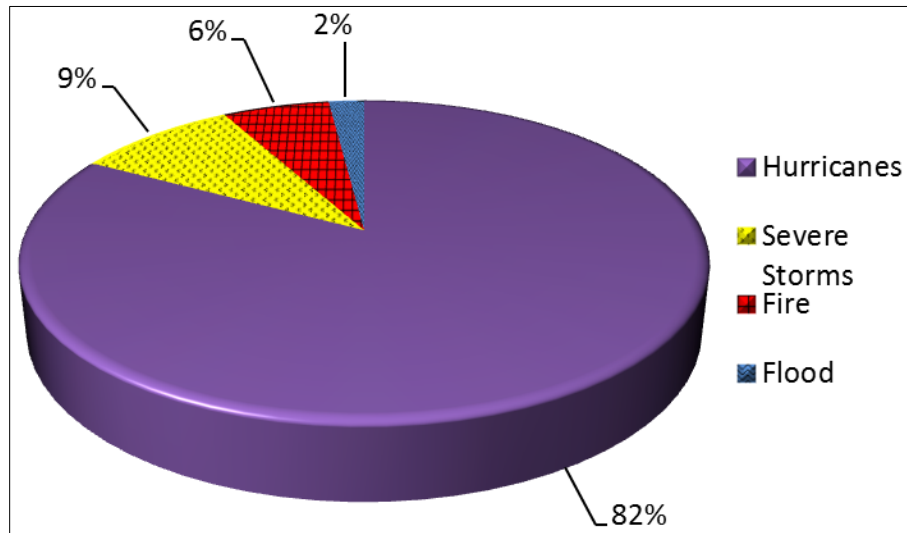
Figure 30. Mission Assignment Spending as a Percentage of Total Disaster Relief Fund Spending, FY1995–2014



Adapted from Federal Emergency Management Agency, *Disaster Financial Status Report—April 2015 Reporting Cycle* (Washington, DC: Federal Emergency Management Agency, 2015).

Analysis revealed that only 24% of the 1,156 major disaster declarations received funding for mission assignments. Of those, four disaster types accounted for 99% of mission assignments: hurricanes, severe storms, fire, and floods, as depicted in Figure 31. The government spent the most for mission assignments on hurricanes.

Figure 31. Mission Assignment Spending by Disaster Type, FY1995–2014

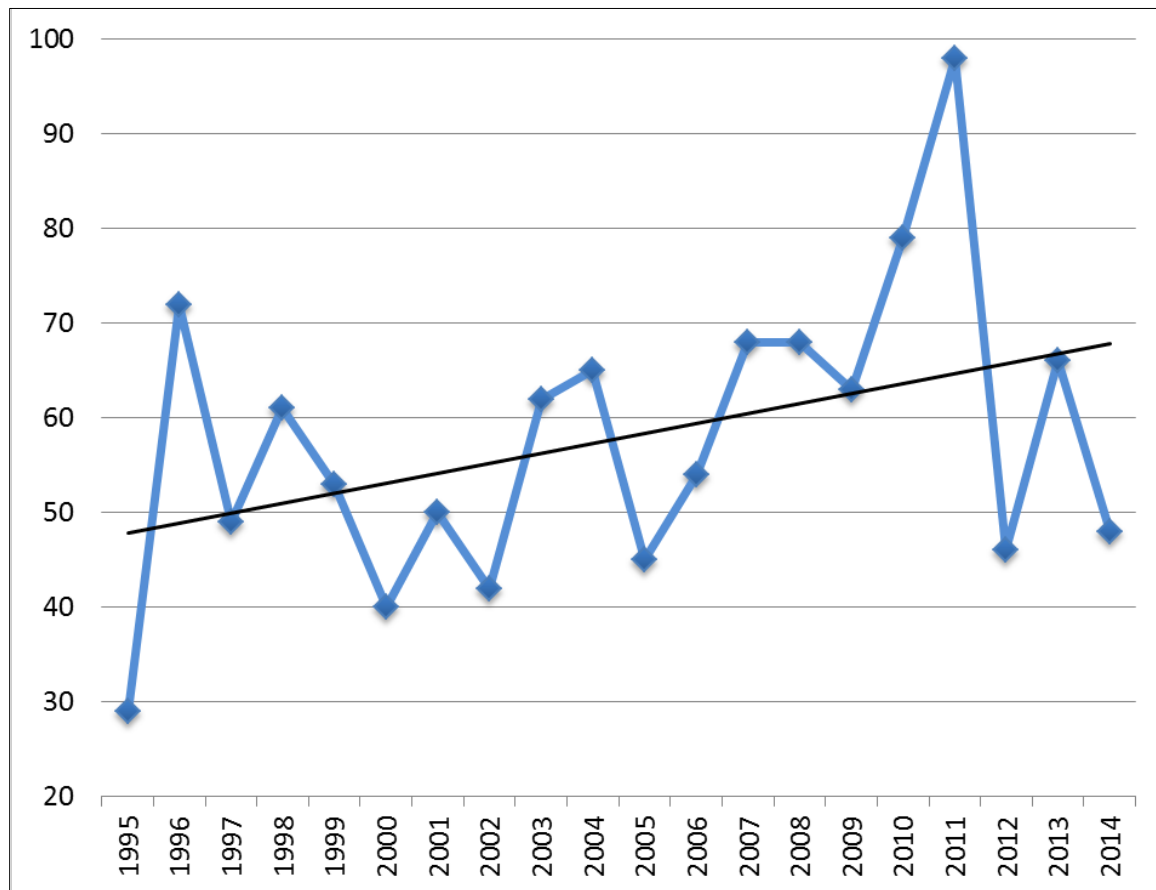


Adapted from Federal Emergency Management Agency, *Disaster Financial Status Report—April 2015 Reporting Cycle* (Washington, DC: Federal Emergency Management Agency, 2015).

D. MAJOR DISASTER DECLARATIONS

The number of major disaster declarations ranged from a low of 29 in 1995, to a high of 98 in 2011, with an average of 58 annual declarations. Presidents issued major disaster declarations at an ever-increasing rate, as illustrated by the rising horizontal trend line in Figure 32.

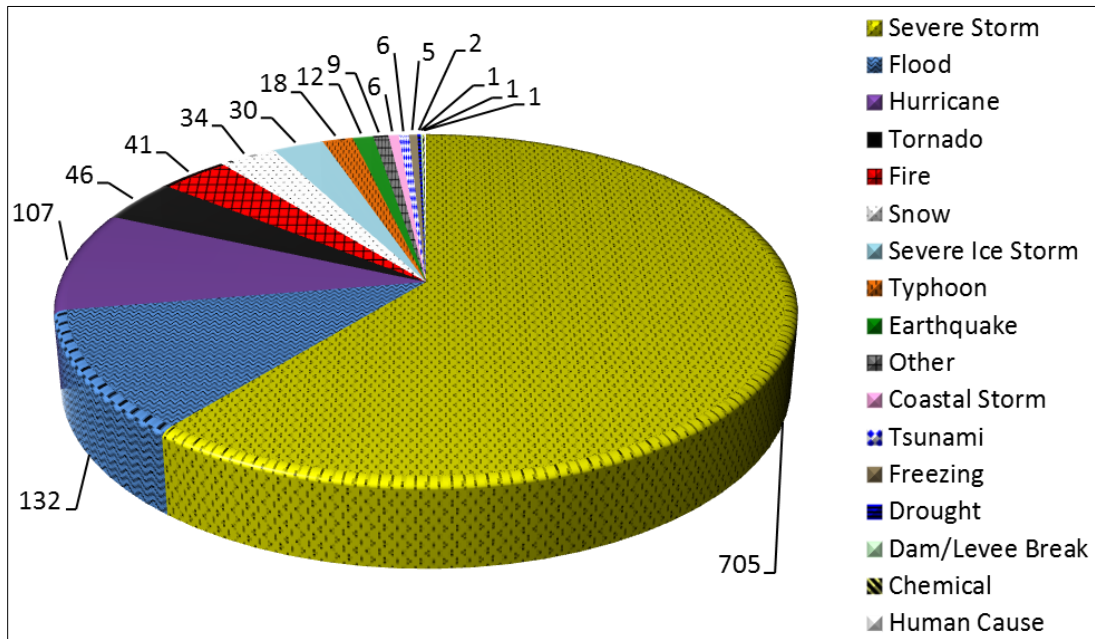
Figure 32. Major Disaster Declarations, FY1995–2014



Adapted from Federal Emergency Management Agency, *Disaster Financial Status Report—April 2015 Reporting Cycle* (Washington, DC: Federal Emergency Management Agency, 2015).

The type of disaster resulting in the highest number of major disasters declared over the last 20 years was severe storms, as shown in Figure 33. In fact, the 705 severe storm declarations accounted for more than half of all declarations (61%). More declarations for severe storms were made than for all other disaster types combined.

Figure 33. Major Disaster Declarations by Disaster Type, FY1995–2014



Adapted from Federal Emergency Management Agency, *Disaster Financial Status Report—April 2015 Reporting Cycle* (Washington, DC: Federal Emergency Management Agency, 2015).

V. DISCUSSION OF THE FINDINGS: SPENDING TRENDS

Federal disaster funding has been described as skyrocketing spending, runaway costs, reckless spending, and spiraling costs.¹⁵⁵ Research findings indicate that federal disaster spending over the past 20 years demonstrated an upward trend; however, no steady increase occurred each year. The data analysis demonstrated the unpredictability of disaster damage and resulting spending, but claims of out of control spending were not supported. The research question posed for this study was to what extent federal disaster spending increased over the last 20 years (FY1995–2014), and what may have contributed to that rise? This section describes these rising spending trends, four areas in which spending trended down, the most notable spending variances, and the increase in the number of major disaster declarations.

A. FEDERAL SPENDING TRENDED UP

Analysis of the data presented in Chapter IV resulted in a finding consistent with existing literature, that federal disaster spending presented an upward trend over the past 20 years, even when controlling for inflation. It was not a steady trend, meaning escalation in spending did not occur each year. The study found that spending in all five DRF categories increased: infrastructure, human services, FEMA administrative costs, post-disaster mitigation, and mission assignments. Spending for the disaster type occurring most often, severe storms, exhibited a sizeable upward trend. However, spending for the most expensive disaster type, hurricanes, remained steady as a proportion of DRF spending. In other words, federal government spending increased as a result of severe storms, while the ratio of spending for hurricanes did not rise or fall.

Analysis revealed that the number of major disasters declared by the president exhibited an upward trend. Annual quantities varied dramatically, from fewer than 30 declarations in 1995 to a record 98 major disaster declarations in 2011. Progressively

¹⁵⁵ “Committee Leaders Introduce Bill to Reform Disaster Assistance Programs and Reduce Disaster Costs,” 1; *Rebuilding After the Storm: Lessening Impacts and Speeding Recovery: Hearings before the House Subcommittee on Economic Development, Public Buildings, and Emergency Management*, 6; Tom Coburn, *A Review of the Department of Homeland Security’s Missions and Performance* (Washington, DC: U.S. Senate Committee on Homeland Security and Governmental Affairs, 2015), 3.

more declarations were requested and issued, which required ever-increasing reliance on taxpayer funds for disaster relief.

Congress issued emergency supplemental spending bills in 15 of the 20 years analyzed in this study to provide disaster relief to affected communities. Emergency supplemental spending bills represented 66% of major disaster funding over the past 20 years, leading to the conclusion that Congress financed major disasters primarily through emergency supplemental appropriations.

B. SPENDING IN ALL FIVE DISASTER RELIEF FUND CATEGORIES TRENDED UP

All five of the DRF major spending categories demonstrated trends of increasing spending: infrastructure, human services, FEMA administrative costs, post-disaster mitigation, and mission assignments. As a percentage of DRF spending, infrastructure, FEMA administrative costs, and severe storms demonstrated an increasing trend.

1. Infrastructure

This study found that half of all DRF spending was in the category of infrastructure. The federal government spent \$65.3 billion on infrastructure as a result of a declared disaster for activities including debris removal, bridge and road restoration, public utility repair, and public building restoration.¹⁵⁶ The government averaged \$3.3 billion in annual infrastructure spending. Data analysis revealed an upward spending trend in this category, as well as an upward trend in the share of DRF funding used for infrastructure. In other words not only did the government spend more to repair disaster-damaged infrastructure, but increasingly, more of the proportion of all DRF spending was for infrastructure. The majority of infrastructure spending was as a result of hurricanes, followed by severe storms.

The scope of this study did not allow for analysis of PA projects awarded by FEMA in this category, which address infrastructure restoration. Therefore, the type of infrastructure demanding the most spending was not a research focus. Future research on

¹⁵⁶ Federal Emergency Management Agency, *FEMA Fact Sheet: Public Assistance*, 1.

the type of infrastructure, extent of damage in PA categories A-G, and cause of damage by disaster type, would contribute to an understanding of factors contributing to rising spending for public infrastructure in disasters.

2. Human Services

Government spending of \$32.1 billion in the human services category represented one quarter of DRF spending over the last 20 years. Data analysis showed only a slight upward trend in spending. Although close to half of human services spending was in FY2005 as a result of Hurricane Katrina, the disaster type resulting in the greatest human services spending was hurricanes. The housing assistance subcategory represented the largest portion of human services spending. Housing assistance includes temporary housing and housing resources, meaning mobile or manufactured homes. Consequently, the research found the federal government spent the most in the human services category for housing assistance as a result of hurricanes.

3. FEMA Administrative Costs

FEMA administrative costs represented 13.8% of DRF spending, or \$18 billion, and demonstrated a slight upward trend. Average annual spending in this category was \$899 million. Analysis revealed that FEMA spent more than half of administrative costs for hurricanes. The GAO provided recommendations to FEMA to control rising administrative spending, but as of December 2014, had not been able to verify institutionalization of these controls.¹⁵⁷ In 2014, the GAO reported that FEMA's administrative costs doubled from FY1989–2013, and attributed this growth to the increase in the number of declared disasters, regardless of disaster size.¹⁵⁸ Further, the GAO referenced a 2007 FEMA policy change that resulted in an unexpected increase in administrative cost reimbursement sought by grantees.¹⁵⁹ The study verified that since 2007, the percentage of administrative spending as a total of the DRF generally

¹⁵⁷ Government Accountability Office, *Federal Emergency Management Agency: Opportunities Exist to Strengthen Oversight of Administrative Costs for Major Disasters*, 17.

¹⁵⁸ *Ibid.*, 1, 16, 36.

¹⁵⁹ *Ibid.*, 29.

increased. More research is needed on administrative costs allocation to determine where to focus efforts to reduce overall FEMA administrative costs.

4. Post-disaster Mitigation

Federal mitigation spending after a disaster totaled \$8.5 billion and demonstrated a slight upward trend. This category represented 6.5% of all DRF spending over the 20-year period. Half of all post-disaster mitigation spending was as a result of hurricanes, and one quarter of the spending was for severe storms. Consequently, the government spent three quarters of all post-disaster mitigation funds on hurricanes and severe storms.

5. Mission Assignments

Spending for mission assignments totaled \$6.7 billion, and demonstrated a slight upward trend. More than half of all mission assignment spending was in one year, 2005, as a result of Hurricane Katrina. Hurricanes were by far the most common disaster type for mission assignment spending, accounting for 82% of all spending in this category. This category represented 5.1% of all DRF spending.

C. FOUR AREAS TRENDED DOWN AS A PROPORTION OF DISASTER RELIEF FUND SPENDING

Although all five major categories of the DRF demonstrated trends of increasing spending, four areas of analysis demonstrated downward spending as a proportion of DRF spending, including the following: fire, human services, post-disaster mitigation, and mission assignments. In other words, the fraction of the DRF spent for each of those disaster types and services decreased. This section describes the demonstrated falling trend in these four areas.

1. Fire

This study found that DRF fire spending demonstrated a downward trend over the past 20 years, both in dollars spent, and as a percentage of overall DRF spending. One potential explanation for the downward trend may be due to federal funding sources for fire suppression. The budget of the U.S. Forest Service funds wildland fire

suppression.¹⁶⁰ The Bureau of Land Management (BLM) also funds firefighting on BLM lands out of their annual agency budget. The Stafford Act specifically names fire as a type of disaster eligible for federal funds.¹⁶¹ However, national policy dictates that spending for fire disasters be performed through the Forest Service and BLM annual budgets. The proportion of the Forest Service's budget directed toward these activities rose 34% over the past 20 years, resulting in internal agency financial maneuvers to transfer funds and staff from non-fire programs to cover increasing costs of firefighting.¹⁶² The Secretary of the Department of Agriculture who oversees the Forest Service has said, "the Forest Service is expected to absorb those costs into its regular budget, which remains relatively flat" and "This means that every year, fire grows as a percentage of the agency's budget, while all other programs shrink."¹⁶³

Only 41 fire major disasters were declared over 20 years, and two of those were as a result of the terrorist attacks of September 11, 2001. DRF spending for those "fires and explosions" accounted for 72% of all DRF fire spending. While analysis of DRF fire spending trended down, this finding does not accurately reflect federal efforts and spending on firefighting. This downward trend must be combined with agency annual budgets and expenditures to determine realistic fire spending trends by the federal government.

2. Human Services

While spending in human services trended up slightly, the percentage of spending in this category demonstrated a downward trend. As demonstrated earlier in this study, the costliest sub-category of human services in every single year from FY1995–2014 was temporary housing. Combining this finding with the second costliest sub-category of

¹⁶⁰ U.S. Forest Service, *The Rising Cost of Wildfire Operations: Effects on the Forest Service's Non-Fire Work* (Washington, DC: U.S. Department of Agriculture, 2015), 3.

¹⁶¹ Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended, 42 U.S.C. § 5121 (1988), 2, http://www.fema.gov/media-library-data/1383153669955-21f970b19e8eaa67087b7da9f4af706e/stafford_act_booklet_042213_508e.pdf.

¹⁶² U.S. Forest Service, *The Rising Cost of Wildfire Operations: Effects on the Forest Service's Non-Fire Work*, 1.

¹⁶³ Jesse Roman, "The Year in Wildfire," *NFPA Journal* 109, no. 6 (November 2, 2015): 42.

housing resources, mobile homes, suggests that the vast majority of human services spending (79%) were for housing assistance. Understanding that the disasters that most often require these types of services are hurricanes and severe storms, it can be concluded that either existing insurance policies are not adequate for these types of disaster scenarios, or homeowners and renters choose not to opt into this type of insurance. FEMA has been referred to as the insurer of last resort.¹⁶⁴ As such, the government should consider new methods to ensure that insurance is adequate, or that people understand exactly what their insurance policy covers.

3. Post-disaster Mitigation

Post-disaster mitigation spending demonstrated a downward trend as a percentage of overall DRF spending. Federal funds are provided for mitigation after a disaster to reduce the risk for future disaster impacts. Section 404 of the Stafford Act authorizes a maximum of 15% for mitigation efforts to “substantially reduce the risk of future damage, hardship, loss, or suffering in any area affected by a major disaster.”¹⁶⁵ The study found that post-disaster mitigation spending represented only 6.5% of all DRF spending over the 20-year period. The majority of federal disaster spending under the DRF is for response and recovery, despite evidence that substantial investment in mitigation can reduce future disaster costs. It has been documented that every dollar spent on mitigation saves four dollars in response and recovery.¹⁶⁶ Post-disaster mitigation grants are one source of mitigation funding by the federal government. FEMA issues pre-disaster mitigation grants as authorized in Section 203 of the Stafford Act for risk reduction.¹⁶⁷ The purpose is to lower potential damages resulting from future disaster events; thereby, lowering reliance on federal disaster funds. FEMA also issues flood

¹⁶⁴ Kettl, “How Much Can (and Should) Government Protect People from Natural Disaster?”; Thomas and Leichenko, “Adaptation through Insurance: Lessons from the NFIP,” 37.

¹⁶⁵ *Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), and Related Authorities*, Section 404.

¹⁶⁶ National Institute of Building Sciences, *Natural Hazard Mitigation Saves: An Independent Study to Assess the Future Savings from Mitigation Activities, Volume 2—Study Documentation* (Washington, DC: National Institute of Building Sciences, 2005), 123.

¹⁶⁷ “Pre-disaster Mitigation Grant Program,” last modified October 30, 2015, <http://www.fema.gov/pre-disaster-mitigation-grant-program>.

mitigation assistance grants as authorized by the 1994 National Flood Insurance Reform Act. For FY2015, pre-disaster mitigation grant funding totaled \$300 million, and flood mitigation grants totaled \$150 million.¹⁶⁸

Investment in mitigation is often cited as necessary to address rising federal disaster costs and spending.¹⁶⁹ FEMA's director under President Clinton emphasized mitigation through the 1990s, and was often credited with strengthening relationships with Congress, as well as the state governments it served.¹⁷⁰ The current disaster funding system gives prominence to response and recovery. Without a drastic change in the nation's approach to risk management to emphasize investment in mitigation, it is unlikely that the upward trend in federal disaster spending will change. Emily Lehr Wallace of the American Geological Institute emphasized the importance of reducing the impact of natural hazards and underscored that it should be a government priority.¹⁷¹ Lehr Wallace acknowledged the difficulty of governments prioritizing hazard mitigation due to "Public amnesia about disasters, including the 'it won't happen to me' syndrome."¹⁷²

4. Mission Assignments

Government spending for mission assignments as a proportion of overall DRF spending demonstrated a decreasing trend over the 20-year period. Hurricanes, followed by severe storms, represented the disaster types with the most spending in this category. Only 278 of the 1,156 major disaster declarations analyzed for this study (24%) received spending in this category. One explanation for the lack of mission assignments for a higher number of declared disasters could be that much of the direct federal assistance

¹⁶⁸ Federal Emergency Management Agency, *Pre-disaster Mitigation Grant Program Fact Sheet* (Washington, DC: Federal Emergency Management Agency, 2011), 1; Federal Emergency Management Agency, *FY 2015 Flood Mitigation Assistance (FMA) Grant Program Fact Sheet* (Washington, DC: Federal Emergency Management Agency, 2011), 1.

¹⁶⁹ Weiss and Weidman, *Disastrous Spending: Federal Disaster-Relief*, 5; Gregory W. Eaton, "Improving Risk Management and Resiliency: A Plan for a Proactive National Policy on Insurance Practices in FEMA's Public Assistance Program" (master's thesis, Naval Postgraduate School, 2013), xxiii.

¹⁷⁰ Derthick, "Where Federalism Didn't Fail," 37.

¹⁷¹ Wallace and Millar, "Beating Natural Hazards to the Punch."

¹⁷² Ibid.

falls under the category of infrastructure or human services, and separate mission assignments were not required. Additional research is needed to itemize the types of missions that were assigned, to which agencies they were assigned, and for which types of disasters to identify areas to focus for reducing spending.

D. THE NUMBER OF DECLARED DISASTERS TRENDED UP

The study found that the number of annual major disaster declarations demonstrated an upward trend. On average, 58 declarations were made each year, with a low of 29 and a high of 98. Major disaster declarations are provided to a state or tribal government, upon request from the governor or tribal official. An increase in declarations could mean more states are affected by a disaster, since a single declaration per incident was not made, but one was made for each impacted state or tribe. Additionally, perhaps more states are able to qualify for federal funds under the per capita threshold, or an increasing number of states are familiar with the declaration process, and are able to navigate a request for declaration successfully. The GAO offered a number of state-level factors that may have had an impact on the increasing trend of declaration of major disasters:

In addition to the federal elements that may have played a role in the increases, there are a number of state-level factors that have made the states more likely to request a declaration than in years past. These may be the result of various factors including 1) budget shortfalls, 2) a “learning curve” in declarations, and 3) the professionalization of emergency management.¹⁷³

Severe storms accounted for 61% of all major disaster declarations. FEMA’s characterization of the 705 severe storm declarations listed in the DFSR itemized a wide variety of damage cause and impact, including the following: blizzards, freezing rain, tropical storms, hurricanes, excessive rainfall, straight line winds, tornadoes, high winds, coastal flooding, soil saturation, and mud flow.¹⁷⁴ Despite the high number of severe storm declarations over the past 20 years, the GAO has verified the lack of a specific

¹⁷³ Lindsay and McCarthy, *Stafford Act Declarations 1953–2014*, 20.

¹⁷⁴ Government Accountability Office, *Disaster Cost Estimates: FEMA Can Improve Its Learning from Past Experience and Management of Disaster-Related Resources*, 17.

definition of what qualifies as a severe storm.¹⁷⁵ Criteria for this type of disaster in needed to better illustrate the types of disasters affecting the United States, and to inform policymakers and taxpayers better as to where federal funding for disasters is being spent.

¹⁷⁵ Government Accountability Office, *Disaster Cost Estimates: FEMA Can Improve Its Learning from Past Experience and Management of Disaster-Related Resources*, 17.

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VI. DISCUSSION OF THE FINDINGS: FACTORS CONTRIBUTING TO INCREASED SPENDING

This study's analysis of 1,156 major disaster declarations determined that overall, federal disaster spending demonstrated an upward trend. When the greatest year of DRF spending, FY2005, was eliminated from the analysis, the disaster spending trend remained on the rise. This removal indicates that spending for Hurricane Katrina, the disaster resulting in the most DRF allocation over the past 20 years, is not solely responsible for the upward spending. This section explores potential explanations for the trend of increasing disaster spending based on frequently cited factors in the literature, including the following: the expansion of federal involvement in disasters, the increase in quantity of major declared disasters, a low per capita damage indicator, and government subsidy of private property insurance. This section also expounds upon influences identified in the study analysis, including the following: underfunding of disasters, inadequate tracking of disaster spending, and disincentives to changing the spending practice status quo.

A. GOVERNMENT ROLES IN LIGHT OF EXPANDING FEDERAL SCOPE

The breadth of what the federal government pays for in disasters, and the government's role, has expanded since implementation of the Stafford Act.¹⁷⁶ In 1998, the GAO reported, "more facilities have become eligible for disaster assistance. Over the years, the Congress has generally increased eligibility through legislation that expanded the categories of assistance and/or specified persons or organizations eligible to receive assistance."¹⁷⁷ More than 20 years later, the CRS highlighted expanding coverage under the Stafford Act, stating, "The scope of the statute has expanded considerably over the decades to provide a wide range of grants for the needs of individuals, families, certain

¹⁷⁶ Edwards, *The Federal Emergency Management Agency*, 2; Lindsay and Murray, *Disaster Relief Funding and Emergency*, 4.

¹⁷⁷ England-Joseph, *Disaster Assistance: Information on Federal Costs and Approaches for Reducing Them*, 5.

community organizations, and state and local government operations.”¹⁷⁸ The growing federal reach in disasters leads to uncertainty about fiscal sustainability. The Center for Strategic and International Studies questioned the feasibility of this expanded federal role in light of the national debt, and advocated for funding reform initiated by Congress.¹⁷⁹

Moss et al. emphasize an expanded state and local level role in the management of disasters in discussion of the federalism concept. In a report on proposed Stafford Act revisions, the authors stressed that the Act’s intent was to supplement state and local governments in disasters, which is where the primary responsibility should lie.¹⁸⁰ One example of this expansion is the revision of FEMA’s snow assistance policy. To align with language in the Stafford Act better, policy was changed in 2009 to consider snowstorms eligible for major disaster declarations.¹⁸¹ The policy change resulted in 16 snow events in one year that were considered major disasters, as opposed to emergencies, which were eligible to receive unlimited federal disaster funding.¹⁸² The policy change leading to the expansion of services lends itself to a succinct summary of the debate over state and federal roles in a disaster:

At the heart of the declaration phenomenon is the role of the government when a disaster strikes. While it is generally agreed that the government should help disaster victims in time of need, it is unclear whether the fiscal responsibility resides primarily with the federal or the state government.¹⁸³

Roles of different levels of government are embodied in the concept of federalism. Intrinsic checks and balances in the structure of state and local governments existing in

¹⁷⁸ Francis X. McCarthy, *Federal Stafford Act Disaster Assistance: Presidential Declarations, Eligible Activities, and Funding* (CRS Report No. RL33053) (Washington, DC: Congressional Research Service, 2011), 3.

¹⁷⁹ Sanok Kostro, Nichols, and Temoshchuk, *White Paper on U.S. Disaster Preparedness*, 8.

¹⁸⁰ Mitchell Moss, Charles Shellhamer, and David A. Berman, “The Stafford Act and Priorities for Reform,” *Journal of Homeland Security and Emergency Management* 6, no. 1 (2009): 6.

¹⁸¹ Lindsay and McCarthy, *Stafford Act Declarations 1953–2014*, 18.

¹⁸² *Ibid.*

¹⁸³ *Ibid.*, 31.

parallel with a federal government characterize a federalist system.¹⁸⁴ The federalist perspective, then, contends that the very structure of the U.S. government should prohibit federal participation in all but the truly national disasters. This view does not define what a national disaster is, but emphasizes the 10th Amendment to the Constitution as justification. This amendment stipulates that individual state governments operate concurrently with a federal government, and the federal government has only the powers specified in the Constitution. The 10th Amendment reads, “The powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people.”¹⁸⁵ Therefore, the federalist view argues, a disaster should be managed at the state level, without interference by the federal government. This perspective argues that federal tax dollars should not be spent on disasters, as states can and should be able to manage most disasters on their own.

An amplified federalist viewpoint asserts that federal disaster assistance in any form should not exist. This notion is that simply the existence of a federal disaster funding backstop, in the form of the Stafford Act, has the following consequences: it prohibits state and local investment in disaster preparedness and mitigation, it reduces or eliminates incentives for states to be prepared for a disaster, and it acts as state entitlement.¹⁸⁶ The entitlement argument is strengthened when it is recognized that no prerequisite state-level investments are in place to reduce the need for a federal disaster spending safety net.¹⁸⁷ The law stipulates the federal government will pay for 75% of certain costs of a disaster, and the state must contribute 25% to the share of that funding.¹⁸⁸ This one quarter cost share is often divided among the state and its affected counties or localities. Federal aid is thought to deter better preparedness, because a fallback is always available, and the financial cost to state and local governments is

¹⁸⁴ Richard Weitz, *Federalism and Domestic Disasters: Promoting a Balanced Approach* (Washington, DC: Hudson Institute, 2006), 2–3.

¹⁸⁵ U.S. Const. amend. X.

¹⁸⁶ Robert John Brown, Jr., “The Concept of Federalism During Catastrophes” (master’s thesis, American Public University, 2011), 33.

¹⁸⁷ Edwards, *The Federal Emergency Management Agency*, 6.

¹⁸⁸ Stafford Act.

relatively low.¹⁸⁹ It has been said the existence of the Stafford Act creates an incentive for a state to wait for a disaster to occur, then accept federal funding to restore and rebuild.¹⁹⁰ Chris Edwards of the CATO Institute strongly recommends eliminating FEMA altogether, arguing that the agency's only role is transferring money from the federal government to the states.¹⁹¹ His argument supports the idea that the United States should have a decentralized approach to disasters; in other words, a narrow federal government role in disasters, with states taking on more of this responsibility.

FEMA recently proposed a new funding approach requiring state-level investment as a precursor to the receipt of public assistance funds under a major disaster declaration.¹⁹² This proposal could indicate that FEMA may be attempting to move toward a federalist perspective. The agency has said, "the current FEMA process of funding all eligible costs once a disaster declaration has been made 'is somewhat at odds' with the Stafford Act's principle that local governments can handle a certain amount of the burden on their own."¹⁹³

The roles, responsibilities, and limitations of the states and the federal government, which exist as distinct yet symbiotic levels of government, are central to the concept of federalism. The existence of the Stafford Act and its legal baseline establishing the federal government as responsible for three quarters of all major disaster costs presents a challenge to elected officials and the nation. To what extent should the federal government use taxpayer money to pay for disasters?

¹⁸⁹ Gavin Smith, *Planning for Post-Disaster Recovery: A Review of the United States Disaster Assistance Framework* (Washington, DC: Island Press, 2012), 378.

¹⁹⁰ Quin Lucie, "Stafford at Twenty-six," *Homeland Security Watch Blog*, November 26, 2014, <http://www.hlswatch.com/index.php?s=twenty+six>.

¹⁹¹ Edwards, *The Federal Emergency Management Agency*, 6.

¹⁹² Establishing a Deductible for FEMA's Public Assistance Program, 81 Fed. Reg. 3082 (January 20, 2016) (to be codified at 44 C.F.R. pt. 206).

¹⁹³ Bryan Koenig, "FEMA Floats 'Disaster Deductible' for Relief Fund Recipients," Law 360, last modified January 19, 2016, <http://www.law360.com/articles/747992/fema-floats-disaster-deductible-for-relief-fund-recipients>.

B. MORE DISASTERS ARE BEING DECLARED

The increased number of major disaster declarations is often cited as contributing to increasing disaster costs.¹⁹⁴ A reduction in the overall number of declarations is recommended as the method to reduce federal disaster spending.¹⁹⁵ It must be contemplated whether simply having more disasters is the cause of increased spending. Many reports and articles note an astonishing statistic of the increase in the number of major disaster declarations since 1953, when the issuance of declarations began. These statistics can be alarming:

- 1960s: \$3.7 billion
- 1970s: \$9.5 billion
- 1980s: \$7.3 billion
- 1990s: \$34.8 billion
- 2000s: \$92.9 billion¹⁹⁶

These numbers demonstrate an increase in spending in all decades since disaster declarations came into being, except the 1980s. It is generally accepted that the reason the costs to the government in the 1980s were so comparatively low is the lack of large disasters in that timeframe. Much of the description of cost or spending increases over the past 60 years has been by decade, as listed earlier in this section. Other descriptions are quite specific, such as focusing on a few selected years or the most recent high-dollar disaster.¹⁹⁷ The CATO Institute emphasized the decade approach, averaged for the 10-year period: “Annual average FEMA spending was \$0.7 billion in the 1980s, \$2.8 billion in the 1990s, \$13 billion in the 2000s, and \$13 billion so far in the 2010s.”¹⁹⁸

¹⁹⁴ Government Accountability Office, *Federal Emergency Management Agency: Opportunities Exist to Strengthen Oversight of Administrative Costs for Major Disasters*, 1.

¹⁹⁵ Lindsay and McCarthy, *Stafford Act Declarations 1953–2014: Trends, Analyses, and Implications for Congress*, 2.

¹⁹⁶ Gall et al., “Unsustainable Trend of Natural Hazard Losses in the United States,” 2176.

¹⁹⁷ Wade, “The Rising Cost of Disasters,” *Risk Management Monitor Blog*.

¹⁹⁸ Edwards, *The Federal Emergency Management Agency*, 1.

In 2015, Senator Tom Coburn (R-OK) characterized the federal debt as this nation's number one threat: "[we] have amassed a national debt that poses the most significant threat to our freedom and security as a nation."¹⁹⁹ He criticized homeland security spending as lacking in demonstrated value, although he did not provide suggestions with regard to how to measure or establish value. Former House of Representatives member Charlie Stenholm testified to Congress in 2005 that high levels of spending and resulting deficits are a critical aspect of economic security for the United States.²⁰⁰ Notably, Senator Coburn criticized the disaster declaration process as the source of the spending problem, and added that many declared disasters should not be considered disasters at all.²⁰¹ Reducing the number of declared disasters, therefore, would reduce federal disaster spending.

A commonly cited 2013 report from the Center for American Progress faults climate change for extreme weather events, which have cost the federal government \$136 billion from FY2011–2013.²⁰² Based on the reports, a graph with a steadily increasing line of major disaster declarations might be expected. Yet, as this study's analysis demonstrated in Chapter IV, the data is more haphazard, reflecting the unpredictability of disasters. The CRS described implementing standardized criteria to curb the number of declared "marginal" disasters that receive federal funding.²⁰³

The number of major declarations in a given year does not automatically determine the highest levels of spending. Simply put, the number of major declarations does not cause high federal spending levels. For example, in 2005, the year of Hurricanes Katrina, Rita, and Wilma, 45 major disasters declared resulted in DRF spending of \$46.9

¹⁹⁹ Coburn, *A Review of the Department of Homeland Security's Missions and Performance*, 3.

²⁰⁰ *Guns and Butter: Setting Priorities in Federal Spending in the Context of Natural Disaster, Deficits, and War: Hearings Before the Federal Financial Management, Government Information, and International Security Subcommittee of the Committee on Homeland Security and Governmental Affairs*, 109th Cong., 1 (2005) (statement of Charlie Stenholm, Government Affairs Advisor, Olsson, Frank and Weeda, P.C., and Former Representative in Congress from the State of Texas), 16.

²⁰¹ Coburn, *A Review of the Department of Homeland Security's Missions and Performance*, 110.

²⁰² Weiss and Weidman, *Disastrous Spending: Federal Disaster-Relief*, 1.

²⁰³ Lindsay and Murray, *Disaster Relief Funding and Emergency*, 21.

billion.²⁰⁴ In 2011, 98 major declared disasters cost the federal government \$7 billion.²⁰⁵ While declaration numbers and spending are correlated, causation is not proven. The number of disasters declared does not result in higher spending, but the amount of damage incurred determines spending levels.

A 2015 CRS report offered a number of possible dynamics that may have influenced the rising number of disaster declarations, including the following: more severe storms, better technology to predict weather patterns, more people living where incidents occur, a higher standard of living, regulatory or policy changes, and improved awareness of the declaration process.²⁰⁶ This report also cited emergency declarations as a potential factor in rising declaration numbers. These declarations, which are issued in advance of an imminent disaster, and are capped at \$5 million, were not part of this study.²⁰⁷ Additionally, the CRS report cited possible state-level factors that may have influenced the increase in declarations, including tightened state budgets, and “the professionalization of emergency management.”²⁰⁸

C. LOW PER CAPITA DAMAGE INDICATOR VERSUS TOTAL TAXABLE RESOURCES

In the 1988 Stafford Act, Congress stipulated that an “arithmetic formula or sliding scale based on income or population” cannot be used to determine state disaster declaration eligibility.²⁰⁹ However, the amount of damage impacting a jurisdiction has implications for a governor’s decision-making process with respect to requesting a major disaster declaration. A dollar amount based on the number of individuals in a designated damage area is one of the tools used to determine damage impact. These per capita damage indicators are determined annually and are used as a threshold to measure both

²⁰⁴ Federal Emergency Management Agency, *Disaster Financial Status Report—April 2015 Reporting Cycle*.

²⁰⁵ *Ibid.*

²⁰⁶ Lindsay and McCarthy, *Stafford Act Declarations 1953–2014*, 14–24.

²⁰⁷ *Ibid.*, 14.

²⁰⁸ *Ibid.*, 20.

²⁰⁹ Government Accountability Office, *Federal Disaster Assistance: Improved Criteria Needed to Assess a Jurisdiction’s Capability to Respond and Recover on Its Own*, 27; 42 U.S.C. § 5163 (1988).

county-level and state-level damages. Although not the only component, the GAO determined that the state per capita damage indicator is the primary instrument FEMA uses to determine eligibility for a major declaration.²¹⁰ The indicator has the greatest influence in a major disaster declaration request, as it is the primary consideration in determining declaration eligibility.²¹¹ As of October 2014, the per capita indicator a state must meet for a major declaration request to be considered was \$1.41.²¹²

Of the two sides of this debate, the idea that the state damage indicator is too low is dominant. Senator Tom Coburn of Oklahoma offered an amendment in 2012, which was not passed, to revise the indicator arguing that it was biased in favor of less populated states.²¹³ He claimed the result of the low indicator was “disasters often being declared after routine weather events.”²¹⁴ The view that an increasing number of “routine” disasters have become federalized was, and continues to be, central to the movement to raise the indicator. Changing this criterion would result in a sizeable reduction in spending.²¹⁵

The GAO has stated the declaration process does not consider a state’s ability to respond without federal assistance, and emphasized that the indicator is too low.²¹⁶ FEMA has highlighted construction, as well as other costs that have risen at a higher rate than the indicator.²¹⁷ Such statements demonstrate an inherent understanding and federal documentation that the damage threshold is too low, meaning more disasters qualify for major declarations than perhaps should. The CRS has noted that FEMA has made

²¹⁰ Government Accountability Office, *Federal Disaster Assistance: Improved Criteria Needed to Assess a Jurisdiction’s Capability to Respond and Recover on Its Own*, 24.

²¹¹ Sanok Kostro, Nichols, and Temoshchuk, *White Paper on U.S. Disaster Preparedness*, 10.

²¹² Notice of Adjustment of Statewide Per Capita Impact Indicator, 79 Fed. Reg. 62645 (October 20, 2014).

²¹³ Coburn, *A Review of the Department of Homeland Security’s Missions and Performance*, 152.

²¹⁴ *Ibid.*

²¹⁵ David Inserra, *Reforming DHS Through the Appropriations Process* (Issue brief no. 4230), (Washington, DC: Heritage Foundation, 2014), 2–3.

²¹⁶ Government Accountability Office, *Federal Disaster Assistance: Improved Criteria Needed*, 24, 26.

²¹⁷ *Ibid.*, 26.

attempts to change the per capita damage threshold in the past, more than annual inflation adjustments, but Congress has denied these efforts.²¹⁸

The GAO has recommended increasing the indicator amount over many years to account for the rise in associated costs and income levels, instead of a lump sum increase that could impact states' response capabilities.²¹⁹ The GAO and the DHS's Office of Inspector General have stated that if the per capita damage indicator had been adjusted to account for both inflation and other economic conditions starting from the first year the indicator was used, the result would have eliminated a large number of disasters from meeting criteria for a major declaration.²²⁰ If per capita changes had been put into effect, the GAO analysis reported that 44% of the 508 major declarations eligible for PA from FY2004–2011 would not have met the major disaster threshold.²²¹ A monetary amount was not provided in the report to demonstrate the cost savings to the federal government. This study's research reproduced the GAO methodology to analyze the 508 declarations, and found that 224 declarations would not have been eligible for federal assistance. This study selected the lowest spending totals for the 224 declarations, without knowing which of the more than 500 declarations would not have qualified. The resulting finding was that at a minimum, \$1.4 billion of federal taxpayer money would have been saved. While a substantial savings, actual savings could have been much higher.

In January 2016, FEMA proposed a “disaster deductible” as an alternative to raising the per capita threshold.²²² The intent was for states (or other similar level grantees, such as tribal governments or U.S. territories), to demonstrate intent and capability to contribute financial resources through investment in their own preparedness

²¹⁸ Francis X. McCarthy, *FEMA's Disaster Declaration Process: A Primer* (CRS Report No. RL34146) (Washington, DC: Congressional Research Service, 2011), 7.

²¹⁹ Government Accountability Office, *Federal Disaster Assistance: Improved Criteria Needed to Assess a Jurisdiction's Capability to Respond and Recover on Its Own*, 28.

²²⁰ Ibid.; Department of Homeland Security, Office of Inspector General, *Opportunities to Improve FEMA's Public Assistance Preliminary Damage Assessment Process* (OIG-12-79) (Washington, DC: Department of Homeland Security, 2012), 1.

²²¹ Government Accountability Office, *Federal Disaster Assistance: Improved Criteria Needed to Assess a Jurisdiction's Capability to Respond and Recover on Its Own*, 27–28.

²²² Establishing a Deductible for FEMA's Public Assistance Program, pt. 206.

prior to receiving federal aid for public assistance. It is not simply a straight dollar match. The proposed approach incentivizes state investment by offering credits to states that make certain investments, ostensibly reducing their future federal disaster assistance need. FEMA's perspective as stated in the Federal Register notice is, "The deductible model would increase stakeholder investment and participation in disaster recovery and building for future risk, thereby strengthening our nation's resilience to disaster events and reducing the cost of disasters long term."²²³ Responsible and effective management of taxpayer dollars is cited throughout the notice as an intended outcome of the proposed approach.²²⁴ *Emergency Management* magazine online noted, "The overall goal is to reduce the burden on taxpayers through mitigation incentives and risk-informed decisions that promote resilience."²²⁵ Support for the proposal highlights tackling of the moral hazard, and putting into place the proper incentives for states.²²⁶ It is not the first attempt to institute a disaster deductible. Congress rebuffed FEMA's 1986 proposed change, and in turn, instituted the "no arithmetic formula" for disaster declarations to keep options available for public officials.²²⁷ FEMA Administrator W. Craig Fugate expressed concern with relying solely on increasing the per capita threshold as a solution to the rising number of major declarations issued; claiming that for larger states, the threshold would be so high, it would be difficult to meet.²²⁸

Criticism of the way in which the per capita indicator currently works is that it only includes what the name implies, income per person. It does not include business or other taxable income that contributes to a state's capability to respond to a disaster.²²⁹ Hence, the indicator is seen to be artificially low, and more disasters receive federal

²²³ Establishing a Deductible for FEMA's Public Assistance Program, pt. 206.

²²⁴ Ibid.

²²⁵ Jim McKay, "FEMA Seeks Comment on Potential Disaster Deductible Concept," *Emergency Management*, last modified January 20, 2016, <http://www.emergencymgmt.com/disaster/FEMA-Seeks-Comment-on-Potential-Disaster-Deductible-Concept.html>.

²²⁶ R Street, "R Street Welcomes Proposed Reforms to FEMA Disaster Assistance Program," news release, January 20, 2016.

²²⁷ McCarthy, *FEMA's Disaster Declaration Process: A Primer*, 7.

²²⁸ McKay, "FEMA Seeks Comment on Potential Disaster Deductible Concept."

²²⁹ Government Accountability Office, *Federal Disaster Assistance: Improved Criteria Needed to Assess a Jurisdiction's Capability to Respond and Recover on Its Own*, 29.

declarations than perhaps should. Based on input from states, FEMA has suggested increasing the indicator over time, to prevent a sudden jump in funds needed by a state to qualify for a declaration.²³⁰ The GAO advocates for an altogether different approach called total taxable resources:

Total Taxable Resources (TTR), a measure developed by the U.S. Department of the Treasury, provides a more comprehensive measure of a jurisdiction's fiscal capacity than FEMA's current PA indicator. For example, TTR includes much of the business income that does not become part of the income flow to jurisdiction residents, undistributed corporate profits, and rents and interest payments made by businesses to out-of-jurisdiction real estate owners and lenders. In the case of FEMA's PA program, adjustments for TTR in setting the threshold for a disaster declaration could result in a more realistic estimate of a jurisdiction's ability to respond to a disaster.²³¹

Using the TTR method would expand the consideration of what to include when determining a state's capability to respond to a disaster or seek federal assistance. This approach would endorse a formula-based determination of eligibility prohibited by Congress. Yet, similar to how the per capita indicator is currently used, the TTR methodology could be established as one of many factors in determining eligibility.

D. SHIFTING PROPERTY INSURANCE MORAL HAZARD TO THE PRIVATE SECTOR

Insurance for homeowners, renters, and businesses in hazard areas is either unavailable, or not reflective of current market conditions.²³² In other words, homeowners may not carry any insurance, or they may underinsure their properties.²³³ As of the 2010 U.S. census, 49.9 million housing units were located in coastal shoreline counties, yet only between 100,000–260,000 homeowners in coastal areas have private

²³⁰ Government Accountability Office, *Federal Disaster Assistance: Improved Criteria Needed to Assess a Jurisdiction's Capability to Respond and Recover on Its Own*, 28.

²³¹ *Ibid.*, 31.

²³² Rachel Cleetus, *Overwhelming Risk: Rethinking Flood Insurance in a World of Rising Seas* (Cambridge, MA: Union of Concerned Scientists, 2014), 2.

²³³ Dan Huber, *Fixing a Broken National Flood Insurance Program: Risks and Potential Reforms* (Arlington, VA: Center for Climate and Energy Solutions, 2012), 2.

sector insurance policies.²³⁴ This number represents a considerable insurance gap. The desire to live near a coast combined with limited supply results in increasing coastal property values. This increase in property values is one factor in the increasing cost, and resulting federal spending, for storms impacting coastal areas.²³⁵ The National Oceanic and Atmospheric Administration (NOAA) national coastal population trends report established, “Regardless of how the coast is defined, it is substantially more crowded than the U.S. as a whole, and population density in coastal areas will continue to increase in the future.”²³⁶ The report documented a stunning four-decade increase, close to 35 million more people inhabited coastal communities in 2010 than in 1970.²³⁷ NOAA further documented that 39% of the entire U.S. population lives in coastal counties.²³⁸ The rise in coastal population and lack of insurance indicates the potential for high future disaster spending.

The lack of available private sector flood insurance inevitably leads to examining public sector insurance options. It has been reported that the private sector insurance industry may rely more on the government in the future for disaster-related risk management, while the government “is increasingly a reluctant partner.”²³⁹ This hesitancy could be reflective of the government’s experience in managing the National Flood Insurance Program (NFIP). Created in 1968, the NFIP aims to “reduce the impact of flooding on private and public structures...by providing affordable insurance to property owners and by encouraging communities to adopt and enforce floodplain

²³⁴ National Oceanic and Atmospheric Administration, *National Coastal Population Report: Population Trends from 1970 to 2020* (Washington, DC: Department of Commerce, 2013), 8.

²³⁵ Cleetus, *Overwhelming Risk: Rethinking Flood Insurance in a World of Rising Seas*, 4.

²³⁶ National Oceanic and Atmospheric Administration, *National Coastal Population Report: Population Trends from 1970 to 2020*, 3.

²³⁷ *Ibid.*, 4.

²³⁸ *Ibid.*

²³⁹ Evan Mills, Richard J. Roth, Jr., and Eugene Lecomte, “Availability and Affordability of Insurance under Climate Change: A Growing Challenge for the United States,” *Journal of Insurance Regulation* 25, no. 2 (2006): 122.

management regulations.”²⁴⁰ Although the program was intended to increase responsible land development, it actually incentivized the opposite, and has been attributed to the government subsidizing flood insurance.²⁴¹

The insolvency of the NFIP is well documented. The program was between \$16–20 billion in debt as a result of Hurricane Katrina in 2005.²⁴² The NFIP sank to \$24 billion in debt, potentially reaching \$30 billion, as a result of Hurricane Sandy in the fall of 2012.²⁴³ Three months prior to Sandy’s impact, Congress passed the Biggert-Waters Flood Insurance Reform Act of 2012.²⁴⁴ This act addressed a common criticism of federal flood insurance, namely, that it did not reflect true market prices, and was in essence, a subsidy to homeowners living in hazard areas.²⁴⁵ Resulting rate hikes and increased premiums were not well received.²⁴⁶ As a result, major provisions of Biggert-Waters were repealed in 2014 with the passage of the Homeowner Flood Insurance Affordability Act.²⁴⁷ Many saw this repeal as a mistake, with the government in effect re-assuming the cost of the moral hazard of individual risk-taking at the expense of all taxpayers. Dr. Alan Eastman, professor of finance and legal studies at the Indiana University of Pennsylvania, advocated reestablishing Biggert-Waters, “to get premiums to reflect the true cost of the flood risk...in flood prone areas. This is required...for financial viability, but also to eliminate the increased demand for property development

²⁴⁰ “About the NFIP,” last modified January 21, 2016, https://www.floodsmart.gov/floodsmart/pages/about/nfip_overview.jsp; “National Flood Insurance Program,” last modified December 10, 2015, <https://www.fema.gov/national-flood-insurance-program>.

²⁴¹ Beer and Hoffman, “Underwater,” 37.

²⁴² Kate Sheppard, “Congress Just Undid the 1 Good Thing It’s Done on Climate Change,” *Huffington Post*, March 18, 2014.

²⁴³ Beer and Hoffman, “Underwater,” 38.

²⁴⁴ Alan D. Eastman, “The Homeowner Flood Insurance Affordability Act: Why the Federal Government Should Not Be in the Insurance Business,” *American Journal of Business and Management* 4, no. 2 (2015): 71.

²⁴⁵ *Biggert-Waters Flood Insurance Reform Act of 2012*, Pub. L. No. 112-141 (2012), 126.

²⁴⁶ Eastman, “The Homeowner Flood Insurance Affordability Act: Why the Federal Government Should Not Be in the Insurance Business,” 72.

²⁴⁷ Federal Emergency Management Agency, *Homeowner Flood Insurance Affordability Act: Overview* (Washington, DC: Federal Emergency Management Agency, 2014), 1.

caused by below market pricing of risk.”²⁴⁸ This viewpoint summarizes the moral hazard that the generosity of federally provided, low-cost flood insurance incentivizes risky behavior paid for by taxpayers.²⁴⁹ It means the availability of under market-value insurance promotes land use and habitation in high-risk areas, without the risk-takers absorbing the various costs of that behavior. Citizens, communities, the government, and taxpayers are shielded from the real risk.

In contrast to repeals in the Insurance Affordability Act, the American Security Project emphasized the need for more insurance coverage, particularly in highly populated U.S. coastal areas.²⁵⁰ It cites the tripling of natural disaster costs since the early 1970s, and notes that existing disaster insurance policy “incentivizes poor risk management.”²⁵¹ The use of insurance as a motivator and reward for prescribed behavior disperses costs can promote mitigation, and makes reliance on taxpayer-funded disaster relief less likely.²⁵² The DHS’s Office of Inspector General 2011 report concluded that, “FEMA’s PA program creates a disincentive to carry insurance.”²⁵³ A requirement for homeowners to obtain insurance at the appropriate level to cover losses would reduce federal taxpayer subsidy of individuals taking on more risk than they can handle.

This perspective of individuals managing risk through insurance at non-subsidized, market-based cost is contrasted with the economic realities of such a change in national policy. As was demonstrated by enactment of Biggert-Waters, and its subsequent repeal two years later, the financial cost to consumers—and political cost to policymakers—of true risk management was too high to bear. Steve Ellis with Taxpayers for Common Sense summed up the divergent perspectives in his rebuke of the repeal,

²⁴⁸ Eastman, “The Homeowner Flood Insurance Affordability Act: Why the Federal Government Should Not Be in the Insurance Business,” 73.

²⁴⁹ John K. Warren, “Restoring Responsibility and Accountability in Disaster Relief,” *William and Mary Environmental Law and Policy Review*, 8th ser., 31, no. 3 (2007): 909.

²⁵⁰ Baskin-Gerwitz, “The Rising Costs of Natural Disaster Insurance,” *American Security Project Blog*.

²⁵¹ Eaton, “Improving Risk Management and Resiliency,” v.

²⁵² Mileti, *Disasters by Design: A Reassessment of Natural Hazards in the United States*, 24.

²⁵³ Office of Inspector General, *FEMA’s Process for Tracking Public Assistance Insurance Requirements* (Report no. OIG-12-18) (Washington, DC: Department of Homeland Security, 2011), 13.

“While politically expedient today, this abdication of responsibility by Congress is going to come back and bite them and taxpayers when the next disaster strikes.”²⁵⁴

In addition to the cost of increasing insurance premiums to homeowners, community economics influence this issue. Land development decisions are under the purview of local ordinances. Municipal and state governments may be more inclined to allow the development of property in a hazard area to increase the tax base, and to provide housing, business opportunities, and entertainment venues to attract and sustain a viable economy.²⁵⁵ Legal reforms necessary to ensure continuity of the government flood insurance program are at odds with local, economic-based decisions that may be essential for community sustainability and vitality. The Center for Strategic and International Studies supported a risk management approach and advocated for a national dialogue with regard to development within hazard areas.²⁵⁶

E. UNDERFUNDING DISASTERS

Over the past 20 years, Congress budgeted only 34% of major disaster spending, for a total of \$45 billion. This amount indicates that more, not fewer, budgeted dollars for disaster relief are needed to meet needs based on existing nation disaster policy. The inability to budget appropriately for disasters reflects either a misinterpretation of historical evidence detailing how much disasters actually cost the taxpayer, or a purposeful decision to manage disaster funding as emergency (non-budgetary) spending. Annual DRF budgeted dollars ranged from \$222 million to \$7 billion. In a 12-year period from FY2000–2011, DRF budget requests averaged \$2 billion, yet average annual spending was \$4.2 billion.²⁵⁷ This funding shortfall suggests that while it is not possible to predict which years may have higher disaster impacts, it must be acknowledged that estimating disaster funding needs over the last 20 years has been done poorly.

²⁵⁴ Sheppard, “Congress Just Undid the 1 Good Thing It’s Done on Climate Change.”

²⁵⁵ Government Accountability Office, *Disaster Resilience: Actions Are Underway, but Federal Fiscal Exposure Highlights the Need for Continued Attention to Longstanding Challenges* (GAO-14-603T) (Washington, DC: Government Accountability Office, 2014), 4.

²⁵⁶ Sanok Kostro, Nichols, and Temoshchuk, *White Paper on U.S. Disaster Preparedness and Resilience: Recommendations for Reform*, 10.

²⁵⁷ Lindsay, *FEMA’s Disaster Relief Fund*, 7.

Annual differences in disaster spending underscore the difficulties of disaster budgeting. Yearly predictions of the type and frequency of disasters are inexact at best and a guessing game at worst. Therefore, how much the federal government will need for disaster spending to cover all its disaster relief requirements on an annual basis cannot be known. This notion is one of the intended benefits of providing federal funding for disasters through the DRF, which is a “no-year” fund.²⁵⁸ Therefore, unused monies can roll over to the next fiscal year. If the DRF does not have enough funds to cover the costs of a disaster, Congress can pass an emergency supplemental spending bill. Rollover funds are taken into account when the OMB and FEMA develop the agency’s annual budget request. One facet of this budgeting issue is that the government does not include the potential for catastrophic disasters in its annual budget development.²⁵⁹ In financial terms, catastrophic disasters are characterized as those where federal spending would be more than \$500 million.²⁶⁰ These large-scale disasters are funded by emergency supplemental spending bills passed by Congress, in addition to any funds remaining in the DRF. Analysis found that the United States averages more than one of these catastrophic disasters each year; yet, the government does not budget for them.

A disincentive exists for more accurate budgeting when Congress has the ability to issue emergency supplemental spending bills with few, if any, restrictions. By necessity, these bills are proposed outside of the budget cycle. Congress passed emergency supplementals in 15 of 20 years analyzed for this study, for a total of \$110 billion. Findings show that emergency supplementals surpassed budgeted funds as the primary source of federal disaster funding, accounting for 66% of all DRF spending. It has been argued that Congress has no incentive to change its reliance on emergency funding for disasters, because it enables representatives to look gracious and benevolent without having to carve billions out of the budget each year. Supplemental spending bills do not count against the annual budget. The purpose of Congress as a legislative body is

²⁵⁸ McCarthy, *FEMA’s Disaster Declaration Process: A Primer*, 1.

²⁵⁹ Executive Office of the President, Office of Management and Budget, *A New Era of Responsibility: Renewing America’s Promise* (Washington, DC: Government Printing Office, 2009), 36.

²⁶⁰ Lindsay and Murray, *Disaster Relief Funding and Emergency*, 8.

to write legislation; disaster funding legislation is one type that is not difficult to pass in times of crisis.

Senators and congressional representatives have long criticized the issuance of disaster aid supplemental bills, often under the guise that these laws will contribute to the deficit and increase the national debt. Longtime South Carolina Senator Lindsay Graham requested federal disaster aid for damage caused by 2015 floods in his state, after denying aid to New Jersey and other northern states as a result of Hurricane Sandy in 2012. Graham claimed he voted against Sandy aid because the legislation contained too much non-disaster related funding. The process of issuing supplemental disaster funding bills has been criticized as a source of pork. Surprisingly, these bills are not exclusive to disaster relief, nor are they exclusive to one specific disaster, which was the original driver for additional funding. Congress not only provided supplemental funding in the majority of the years analyzed for this study, but the supplementals totaled more than the entire annual DRF funding for that year close to 90% of the time. In other words, in the vast majority of cases, annual budgeted DRF funding was vastly unrealistic and insufficient.

The Budget Control Act of 2011 transformed the way in which FEMA annual budget requests are developed, which resulted in increases in DRF budgeted allocations beginning in FY2012. This approach more accurately reflects historical data, which demonstrates the need for more annual funding. Yet, in the three years that this revised budgeting approach has been in place, emergency supplemental appropriations surpassed the total budgeted DRF funds, which was the case even though supplementals were issued in only two of the three years. The impact of Hurricane Sandy on the northern east coast in the fall of 2012 resulted in DRF supplemental funding that was the second highest disaster supplemental in 20 years, after Hurricane Katrina.

F. INADEQUATE TRACKING OF DISASTER SPENDING

Chapter III established the lack of an annual accounting of all federal funds spent on disaster response and recovery. A 2013 report by the Center for American Progress noted, “public officials lack complete knowledge about annual federal spending on

disaster relief and recovery”²⁶¹ Former FEMA Administrator R. David Paulison, the Director of the Center for Science and Technology Policy Research at the University of Colorado in Boulder, and the Environmental and Societal Impacts Group at the National Center for Atmospheric Research, all criticized a lack of comprehensive accounting of disaster costs, which inhibits proper public debate and characterization of the challenge of rising federal disaster spending.²⁶² The Center for Strategic and International Studies stressed, “In a fiscally strained environment, finding ways to better prepare for and recover from disasters in a manner that is cost-efficient is all the more important.”²⁶³ Their recommendation was to “increase collection, analysis, and distribution of disaster-related data and information to inform development of preparedness and resilience policies.”²⁶⁴ The Center for American Progress recommended, “President Obama should require the Office of Management and Budget to conduct an annual—and complete—accounting of funds spent on every disaster-relief and recovery program in the previous fiscal year.”²⁶⁵

This study focused on analysis of the DRF, as it is the account by which Congress annually allocates funds for disaster relief. FEMA provides a monthly report to Congress on the balance of the DRF, but it contains many specific accounting terms that may not be easy for the public to interpret.²⁶⁶ Other federal disaster funding sources could contribute to a more accurate annual picture of federal disaster spending. These sources include individual department and agency disaster spending from their own budgets, and emergency disaster supplemental spending bills that allocate funds to the Department of Defense, individual federal departments and agencies, and non-profit organizations.

²⁶¹ Weiss and Weidman, *Disastrous Spending: Federal Disaster-Relief*, 8.

²⁶² Downton and Pielke, Jr., “Discretion Without Accountability: Politics, Flood Damage, and Climate,” 158; Paulison, “Pre-storm Mitigation Is Key to Cutting,” *The Hill Blog*.

²⁶³ Sanok Kostro, Nichols, and Temoshchuk, *White Paper on U.S. Disaster Preparedness*, 3.

²⁶⁴ *Ibid.*

²⁶⁵ Weiss and Weidman, *Disastrous Spending: Federal Disaster-Relief*, 7.

²⁶⁶ *Consolidated and Further Continuing Appropriations Act, 2013*.

A 2014 CRS report emphasized that funding provided through supplementals is allocated to many agencies and is not provided solely to bolster the DRF.²⁶⁷ The \$50 billion supplemental for Hurricane Sandy mandated a new reporting requirement. Congress required the FEMA Administrator to provide a monthly report of Hurricane Sandy-related DRF spending to both the House and Senate appropriations committees.²⁶⁸ Chapter III described these reports in detail, and emphasized that while helpful to report annual FY spending under the DRF, these reports do not require FEMA or any other federal agency to develop an annual report on all disaster spending across the federal government, regardless of spending agency or funding source.

G. DISINCENTIVES TO CHANGE

The role of incentives was prevalent throughout this research study. Existing national disaster policy offers few incentives to reduce the amount the federal government spends on disasters annually. While incentives themselves are not prevalent, support for them has not diminished. Former FEMA Administrator Paulison promoted efforts to “build a more resilient country and shift more money into pre-disaster federal incentive programs.”²⁶⁹ States and tribal governments are not incentivized to invest in mitigation or preparedness activities at the risk of not receiving a declaration. Major disaster declarations are primarily based on damage assessments, which determine whether the state-level per capita damage indicator has been met, although other factors are considered.²⁷⁰ The annually adjusted per capita indicator has been criticized as unreasonably low and too easily met. This perspective, therefore, cites the artificially low damage threshold as a primary reason why the number of major declarations has increased. It means that disasters are becoming increasingly more federalized, and eligible for unlimited taxpayer dollars at 25% of the cost to states. No incentives tie Stafford Act declarations to increasing state investment prior to a disaster. If a state can

²⁶⁷ Lindsay and Murray, *Supplemental Appropriations for Disaster*, 6.

²⁶⁸ Disaster Relief Appropriations Act, 2013, 49 U.S.C (2013), 9.

²⁶⁹ *Rebuilding After the Storm: Lessening Impacts and Speeding Recovery: Hearings before the House Subcommittee on Economic Development, Public Buildings, and Emergency Management*.

²⁷⁰ Government Accountability Office, *Federal Disaster Assistance: Improved*, 23–24.

receive federal funds at one quarter of the cost, what incentive exists to spend state money prior to a declaration? A post-Hurricane Sandy report by the Heritage Foundation reflected the perceived resistance to change, stating, “The ambiguous provisions of the Stafford Act and low damages threshold create enormous incentives for governors to seek federal disaster declarations rather than shoulder most of the cost, especially during this time of tight state budgets.”²⁷¹

The method of budgeting for disasters remains a somewhat elusive yet important topic. Little momentum exists to change the process of issuing emergency disaster supplemental spending bills after a disaster. When a disaster occurs, and governors or tribal officials request federal funding to support the needs of their states, congressional representatives look reactive, responsible, compassionate, and altruistic when quickly passing an emergency spending bill. The fact that spending taxpayer dollars in this manner is common for disasters, and is also rife with criticism for its lack of accountability in the federal budget, is notwithstanding. Supplemental spending bills are often burdened with funding unrelated to the disaster, which drives up the spending of taxpayer dollars. The unpredictability of disasters means it cannot be guaranteed a need will exist for an extremely large amount of spending in any given year, perhaps reflecting the consistent underbudgeting for disasters. Congress has little incentive to change a process that benefits them and serves the needs of the impacted disaster population in their time of greatest need. Senator Coburn expressed this apparent disregard for a rigorous disaster budgeting process requiring fewer supplemental spending bills when he reflected on his failed 2012 amendment to revise the disaster declaration criteria. He stated, “At least some of the Senators voting against reforming the disaster declaration process were likely interested in ensuring that funds continue to go to their state, rather than focusing relief on the biggest emergencies and natural disasters.”²⁷²

The GAO analyzed FEMA’s 1986 attempt to revise the per capita indicator, as well as other elements contributing to declaration decisions, in an attempt to reduce the

²⁷¹ Steven P. Bucci et al., *After Hurricane Sandy: Time to Learn and Implement the Lessons in Preparedness, Response, and Resilience* (Report no. 144) (Washington, DC: Heritage Foundation, 2013), 2.

²⁷² Coburn, *A Review of the Department of Homeland Security’s Missions and Performance* 152.

number of federal declarations. FEMA’s proposal included the state deductible approach recently proposed in January 2016, as well as a reduction in the federal cost share from the then- and current 75%, down to 50%. The GAO highlighted elected officials’ potential concern of losing discretionary authority with a change in the indicator. The GAO documented, “Rather than apply the empirical solution suggested by FEMA to perceived problems in the declaration process, Congress instead legislated a provision to explicitly forbid the primacy of any ‘arithmetic formula.’”²⁷³

The former director of the Natural Hazards Center wrote, “Losses from hazards—and the fact that the nation cannot seem to reduce them—result from shortsighted and narrow conceptions of the human relationship to the natural environment.”²⁷⁴ Dennis Mileti was arguing for increased hazard mitigation to reduce disaster impacts, reasoning that the inability to pursue long-term solution inhibits effective policy and sustainable disaster practices.²⁷⁵ Federal elected officials’ desire to retain the discretion inherent in the imprecise disaster budgeting process will most likely impede change. The focus on short-term disaster response solutions as opposed to long-term investment in disaster mitigation contributes to the continued increase in federal disaster spending.

The current disaster funding system rewards all parties. Localities and states receive federal funds at a greatly reduced rate regardless of previous investment or mitigation efforts, individuals and businesses receive funding regardless of their insurance status, and federal officials benefit from perceived decisive action and altruism in awarding large emergency supplemental bills after a disaster, which suggest strong disincentives to changing the current funding mechanisms for disasters.

²⁷³ McCarthy, *FEMA’s Disaster Declaration Process: A Primer*, 7.

²⁷⁴ Mileti, *Disasters by Design: A Reassessment of Natural Hazards in the United States*, 2.

²⁷⁵ *Ibid.*, 27.

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VII. RECOMMENDATIONS AND CONCLUSION

This thesis explored federal government spending trends for major disaster declarations. Study findings revealed an overall trend of rising disaster spending and an absence of a comprehensive accounting for it, an expanded federal role in disasters, an increase in the quantity of declarations issued, and drastic under-budgeting for disaster events that impact communities each year. Additional findings demonstrated a need for the federal government to examine its policies with regard to risk management, housing insurance, disaster damage threshold, federal cost share in disasters, sliding scale disaster relief funding, and intra-state resource sharing. Recommendations are provided for policymakers that address each of these findings. The section concludes with an appeal to assess the future of taxpayer-funded disaster response and recovery by incentivizing the management of risk.

A. RECOMMENDATIONS

Seven approaches are recommended for policymakers to diminish the upward trend of federal spending on disasters.

1. Mandate an Annual Report of All Federal Disaster Spending

Congress should require one agency to develop an annual report of all federal department and agency spending on disasters, regardless of source. FEMA submits a cumulative monthly report to Congress on DRF spending, and the last report of each fiscal year is a good source for initial data for this report. Other existing reports that can be used as source material include annual DRF regular budget appropriations, congressional supplemental disaster appropriations, individual department and agency budget in brief reports, agency spending reports if available, and any other data as needed. Until the government and its citizens have an understanding of the full extent of federal disaster spending, the trend of increasing the expenditure of taxpayer dollars is unlikely to change.

2. Develop a National Risk Management Approach

The nation must reexamine its approach to national risk management, which means looking at the full range of emergency management mission areas including disaster preparedness, protection, response, recovery, and mitigation to determine national priorities. The vast majority of disaster funding is spent responding to an event rather than for efforts toward preventing an incident or lessening potential damage. This nation's vision of addressing a problem afterwards, by providing the majority of disaster funding for response, must be altered to reflect a systems approach. Investment in mitigation projects and preparedness activities impacts disaster damage severity and response and recovery capabilities. A public dialogue must occur concerning how taxpayer money should be spent on disasters. The development of a national approach to risk management would outline a strategy to prioritize investments and maximize resource allocation.

3. Privatize Housing Insurance

The federal government should develop a multi-year plan to withdraw from providing flood insurance to homeowners. Coastal areas should be the initial focus, as the majority of DRF funding over the past 20 years has been for hurricanes. The private sector is not incentivized to offer insurance while it is available from the federal government. Removing the federal government from providing this insurance promotes a free market economy where true risk is incorporated into homeowner costs. The government should work with the private insurance industry to incentivize homeowners not only to purchase insurance, but to have the appropriate level of coverage depending on the community risk level. The government must stop subsidizing personal risk and debatable land development practices at the expense of taxpayers.

4. Analyze the Use of Total Taxable Resources or Revise the per Capita Damage Indicator

The GAO should analyze disaster data for the most recent 10-year period, at a minimum, to determine the impact of instituting TTR in place of the per capita damage indicator. This analysis would help to inform state interests, federal elected officials, and

the public of the benefits and drawbacks of considering the TTR as a new tool for determining state-level major disaster declaration eligibility. In parallel, Congress should increase the per capita damage threshold to reflect economic conditions and income levels. If the indicator continues to be raised only to match inflation, an increasing number of disasters will become eligible for major disaster declarations. This increase will maintain the upward trend of increased federal disaster spending indicated by this study, and the federal government will pay 75% of the cost of an ever-increasing number of disasters.

5. Lower the Federal Cost Share Percentage

Congress should propose a Stafford Act amendment to reduce the guaranteed federal cost percentage from 75% to 50%. This amendment would require increased state investment in disaster preparedness or mitigation, or may initiate the states' creation of a disaster "rainy day" fund to pay for disasters that occur in their state. The combination of reduced federal expenditure mandates and increased state investment will reduce federal taxpayer spending for disasters.

6. Provide Federal Funding on a Sliding Scale

Congress should propose an amendment to the Stafford Act to provide federal disaster funding based on a sliding scale. Each disaster receives the same baseline of 75% federal cost share regardless of the frequency of disaster occurrence, level of state investment in mitigation, preparedness, or prevention activities, or saturation of homeowners with the appropriate level of insurance. The federal government has no cap with regard to what it can or will pay to aid a state as a result of a disaster, and a state has every incentive to ask for a declaration. Whether a state has made investments in protection of critical infrastructure, mitigation projects, or disaster preparedness, the lure of repairing assets in the affected state with federal funds at 25% of the cost could prove too great for state economies with tight budgets. FEMA is currently considering a disaster deductible to incentivize states to invest more in mitigation and preparedness, and foster responsible land development in hazard areas. The intent is also to encourage states to set aside monies to fund their own disasters as opposed to relying on federal assistance.

Whether funding is provided on a sliding scale or a deductible basis, federal disaster funding should be reframed to meet the intent described in the Stafford Act, to *supplement* state and local efforts.

7. Increase Incentives for State-to-State Resource Sharing

The federal government should incentivize states to increase the utilization of the Emergency Management Assistance Compact (EMAC) for state-to-state use of resources. Since September 11, 2001, the federal government has issued billions of dollars in preparedness grants. Individuals, teams, and communities across the country have invested those funds in training and equipment to establish, maintain, and enhance the knowledge and skills necessary to respond to a disaster. The investment the federal government has made in state capability growth should be capitalized upon to underscore the importance of federal grants to states, utilize highly skilled teams and support their ongoing skills maintenance and application, and emphasize a distributed emergency management skillset across the country as opposed to top-heavy federalized assets. Finally, putting an incentive into place for increased state-to-state resource utilization could reduce the increasing trend of FEMA administrative costs.

B. CONCLUSION

The research studied 20-year trends in spending under the DRF. The principal finding concurred with existing literature that federal disaster spending continued to increase. Recommendations to reverse this trend include developing an annual report of all federal disaster spending regardless of source, creating a national risk management strategy, reducing the federal cost share under the Stafford Act, raising the per capita damage threshold, eliminating government flood insurance, funding disasters on a sliding scale, and incentivizing state resource sharing. These changes would address the primary issue of rising federal disaster spending undertaken in this research. Future research must address the philosophical debate of incentivizing risk management over disaster management, and to what extent taxpayers should continue to pay for disaster damages with federal funds.

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